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ABSTRACT

Federal policies and contracts relating to Area Health Education Centers are examined. The evolution of federal programs in the health field is traced, including a discussion of the Carnegie Commission's special reports, the Comprehensive Health Manpower Training Act of 1971, and subsequent amendments to the Act. A detailed outline of the functions of these federal policies is included. A critique of 11 universities and their area health education centers is also presented. Site visits to each location are described. The services of the health education centers are assessed in reference to the recommendations of the Carnegie Commission that include: improved and increased health care services, minority representation in the health care field, cost effectiveness, and a more effective relationship of health care education to health care delivery. (SF)

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AREA HEALTH EDUCATION CENTERS

The Pioneering Years, 1972–1978

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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A TECHNICAL REPORT FOR THE CARNEGIE COUNCIL ON POLICY STUDIES IN HIGHER EDUCATION

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Charles E. Odegaard

AREA HEALTH EDUCATION CENTERS

The Pioneering Years, 1972–1978

A Technical Report for the Carnegie Council on Policy Studies in Higher Education

AREA HEALTH EDUCATION CENTERS: THE PIONEERING YEARS, 1972-1978
by Charles E. Odegaard

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Foreword

Early in its history, the Carnegie Commission on Higher Education (predecessor of the Carnegie Council) selected medical and dental education as an area of special concern in higher education to which it would devote one of its special reports. That report, *Higher Education and the Nation's Health*, issued in the fall of 1970, at a time when there was concern over a shortage of health manpower, proved to be one of the most influential of the Commission's special reports. Many of the most significant features of the Comprehensive Health Manpower Training Act of 1971 were strongly influenced by it. These included:

- The principle of providing a basic and continuing federal floor of support for medical and dental schools in the form of capitation (per student) payments.
- The provision of bonuses to the schools for expansion of student places and acceleration of programs.
- The provision of federal funds for curriculum reform and innovation.
- Need-based student grants and an adequate program of student loans.
- Federal support for the training of physicians and dental assistants.
- Creation of a national health service corps.[1]

[1]The National Health Service Corps was actually created under separate legislation adopted by Congress toward the end of 1970.

- Federal funds for construction and start-up grants for new medical and dental schools, along with a warning that establishment of too many new schools should be avoided and that only nine new medical schools were needed to achieve adequate geographic distribution.
- Federal funds to support the development of area health education centers, which would be affiliated with university health science centers and would perform all the functions of those centers except for the basic education of M.D. and D.D.S. candidates. The area health education centers (AHECs) would be designed to improve the quality of health training in their areas, help to overcome problems of geographic maldistribution of health manpower, encourage training for primary care, and remove the pressure in many communities for the establishment of new medical schools.

Under a section of the 1971 legislation entitled "Health Manpower Initiative Awards," funds were authorized for the development of centers closely resembling those recommended by the Carnegie Commission, although the term "area health education centers" did not actually appear in the legislation. In 1972, the Bureau of Health Manpower Education entered into five-year contracts (later extended) with 11 university health science centers or their parent universities in as many states to develop area health education centers. Meanwhile, there were similar developments in other states under the auspices of the Veterans Administration, public university health science centers, and, in a few cases, private medical schools. By the time the Carnegie Council published its report, *Progress and Problems in Medical and Dental Education*, in 1976, 33 states had AHECs or other types of decentralized health manpower education programs under the supervision of university health science centers and serving at least part of the state.

Two years ago, the Carnegie Council was invited by the 11 universities with federal AHEC contracts to undertake an evaluation of their programs. The project directors believed that the Council, having been involved in the development of the AHEC

concept, would be particularly well qualified to undertake an evaluation that would be more authoritative and also more detached than an evaluation undertaken directly for the federal government. We accepted the invitation and were fortunate in persuading Dr. Charles E. Odegaard, president emeritus of the University of Washington, to take responsibility for the project. Dr. Odegaard is not only a seasoned administrator but also is very knowledgeable about medical education and is the author of *Minorities in Medicine: From Receptive Passivity to Positive Action, 1966–76*, a report prepared for the Josiah Macy, Jr., Foundation (1977). The 11 universities were able to arrange with the federal government for modest grants to meet the costs of the evaluation, in some cases using existing funds in their contracts.

The present publication includes two main sections of Odegaard's report: (1) his discussion of the evolution of federal policies relating to AHECs, including a detailed outline of their proposed functions; and (2) his conclusions relating to the 11 projects with 1972 federal contracts. (Recently a number of additional contracts have been signed with other universities.) In addition to these two sections, Part II of Odegaard's report, which includes his discussion of each of the 11 individual projects, is available from the Council as a separate document in duplicated form. Part II is lengthy and detailed but will be an invaluable reference source for institutions and individuals concerned with the development of AHECs, including a penetrating analysis of the strengths and weaknesses of the existing projects.

Before actually visiting the project sites, Odegaard conferred in Washington with congressional staff members who had been involved in legislation relating to AHECs and with officials in the Department of Health, Education, and Welfare who were involved in administering the program. He studied the numerous reports that had been prepared on the 11 projects and prepared a carefully compiled list of questions designed to obtain information from project directors on aspects of their programs that had not been adequately considered in these reports. His site visits, which were made in the later half of 1978, involved three

or four days at each of the projects and included interviews with many individuals in the areas in which AHECs were being developed, as well as with project directors and faculty members in the university health science centers conducting the projects.

Odegaard's evaluation is objective and, at the same time, on the whole, very encouraging as to the accomplishments of most of the projects. The Carnegie Commission's view that AHECs would improve the quality of health care and contribute to overcoming problems of geographic maldistribution and overspecialization appears to have been largely justified. To be sure, hard statistical data are not yet available, except to some extent in North Carolina, but Odegaard's report cites much evidence based on his interviews indicating that many of the residents receiving their postgraduate training in AHECs are staying on to practice in the areas of their training. There is also evidence of positive attitudes of physicians and other health professionals toward the contributions of AHECs. They refer to (1) improvements in the quality of health care, (2) the attractiveness of practice in a locale where education in the health professions is being expanded, and (3) the value of frequent contacts with faculty members of university health science centers providing opportunities for consultation on complicated cases. These are just a few of the types of contributions discussed in the report.

At the same time, the report makes it clear, not surprisingly, that the projects are not all equally effective, and the author's evaluation is particularly penetrating in its discernment of various administrative weaknesses that help to explain the relatively limited accomplishments of some of the projects.

A major theme of the report is its emphasis on the need for adaptation of AHEC programs to the special situations existing in the various states and regions. The author shows very clearly, for example, that the comprehensive program of regionalization that has been developed in North Carolina cannot be duplicated in every state. Not only is there geographical diversity, but there are also highly significant differences in the characteristics of populations to be served in various areas, the existing development of health manpower education, the attitudes of

local medical societies, and countless other variables. Odegaard concludes that existing federal legislation is too rigid in its requirements that each individual AHEC program conform to specific criteria and recommends that both legislation and administrative regulations be modified to encourage greater flexibility in the development of individual programs.

Another important finding is that state funds have played an important role, along with federal funds, in the development of these programs. In fact, the four states with the most impressive accomplishments in Odegaard's view—North Carolina, South Carolina, California, and Illinois—all had either started to develop programs under state auspices aiming at decentralization of medical education before federal funds became available or, in California's case, had a well-organized movement in the affected area (around Fresno) aimed at mobilizing community resources to improve the quality of health care. (Actually, this movement originally was directed toward a new medical school in Fresno but later became successfully involved in the AHEC program.)

In a number of the 11 projects, state funds have gradually come to be considerably more important than federal funds in the overall financing. In fact, Odegaard's report includes some very informative discussions of how federal funds can be used to get a program going and then can gradually be replaced by funds from state and local sources, especially in this era of third-party financing of medical care. A particularly interesting example of the use of federal funds as "seed money" is in the encouragement of continuing education programs for physicians and other health manpower. Once these programs are well organized, fees for participation can largely replace public subsidies in their financing. Another interesting example, and one of special significance to the Carnegie Council in view of its interest in the structure of higher education, is the gradual assumption of responsibility of comprehensive colleges and community colleges in some of the affected areas for allied health manpower training programs, after initially receiving help and guidance from university health science centers, as well as financial support in some cases from federal funds.

All of this suggests that the federal role in relation to

AHECs should be one of providing funds for stimulating and encouraging AHEC programs where they are as yet underdeveloped. Once the program is well under way, federal financial support can often gradually be withdrawn. Clearly, there is a need for continuing federal involvement in parts of the country where AHEC programs are as yet underdeveloped. Particularly significant in this connection is the need for greater emphasis on serving inner-city areas in the future development of AHEC programs. None of the original 11 projects was especially oriented toward meeting this need, although the Metro Six Hospital group in Chicago, which is part of the Illinois Area Health Education System, is involved in serving inner-city areas. It is encouraging to note that some of the more recent federal contracts are concerned to some extent with meeting inner-city needs.

Finally, it would be a mistake to leave the impression that AHECs alone can altogether overcome problems of geographic maldistribution of health manpower. They can contribute toward that objective, but continuing support of the National Health Service Corps, as well as of Health Maintenance Organizations (HMOs), is also needed, as is a national program of improved financing of medical care. Hopefully, at some time in the future, we shall see closer coordination between AHEC programs and HMOs in individual areas.

In conclusion, I should like to thank Margaret S. Gordon, Associate Director of the Carnegie Council, for her work in expediting the launching of the Odegaard project and keeping in close touch with its progress throughout the last two years. And we are particularly indebted to Charles E. Odegaard for his careful and thoughtful review of developments in this important area of health education. Once again he has demonstrated both his independence of mind and his conscientious devotion to getting the facts and analyzing them scrupulously.

CLARK KERR
Chairman,
Carnegie Council on Policy
Studies in Higher Education

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AHECs—The View from Washington, D.C.

The Carnegie Commission's AHEC Concept

The Carnegie Commission on Higher Education in its report, *Higher Education and the Nation's Health* (1970, pp. 1-9) declared that Americans deserved and should expect better health care and that better health care was clearly a high national priority. Major objectives were defined as:

- the provision of more health care personnel of the right kinds
- a better geographic distribution of health care personnel and educational facilities, particularly for the sake of the central city and rural areas
- more equality of opportunity for women and members of minority groups
- more appropriate training for the work to be performed; more effective relationship of health care education to health care delivery
- a more equitable distribution of the financial burden between the federal government and the states, and among the several states
- the limitation of costs to the greatest possible extent.

To meet these objectives the Commission saw a need, among other things, to expand the number of places for training

doctors during the 1970s by 50 percent, and of dentists by 20 percent, with many of these places to be filled by women and members of minority groups. But the Commission also argued the case for more allied health personnel: "The current ratio of all health care personnel to doctors is about 10 to 1; in the long run we see this ratio rising substantially. We particularly favor expanded training of medical associates who can work under the general supervision of doctors and expanded training of medical assistants who can work under the doctors' specific directions" (Carnegie Commission, 1970, p. 5).

To serve all the people everywhere, the Commission believed it necessary to increase the geographic dispersion of health training centers. It noted that 27 new university health science centers were then being started around the United States and that 70 more were being considered. However, the Commission itself took the view that fewer additional centers were needed over the 27 then being established. It believed that there should be a university health science center in every metropolitan area with a population of 350,000 or more (except for those areas that were able to benefit from existing university centers that were geographically convenient to them). It identified eight sites for new centers and a ninth (for special reasons), which fell below the 350,000 population minimum. In addition, it recommended "area health education centers" (AHECs) as an appropriate solution for communities with populations below 350,000, of which it identified 126 across the nation.

The Carnegie Commission (pp. 55–59) then spelled out in detail the role of AHECs:

> In some parts of the country the distances between university health science centers are likely to be very great, as in the sparsely populated mountain states. Elsewhere, concentration of people in congested urban areas would overwhelm the facilities of even the largest health science center. In both types of areas there should be "area health education centers"

[AHECs[1]] which would provide facilities for patient care, often on a referral basis from surrounding areas; educational programs for house officers and, to some extent, for M.D. candidates who could rotate through an AHEC from a university health science center; clinical experience for allied health students; and continuing education programs for health manpower.

These AHECs, in essence, would be satellites of the university health science centers and would be visited on a regular basis by the faculty of the health science centers with which they were affiliated. Their educational programs would be developed and supervised by the health science faculty, and their patient care functions would rely on the expertise of the health science center personnel. The AHECs in turn would provide assistance and counsel to the community and neighborhood health care facilities, including the private practitioner. . . .

The nucleus of an AHEC would be a hospital, usually a community hospital, but perhaps in some cases a Veterans' Administration hospital. The house officers at the hospital would receive instruction from the faculty of the medical school with which the center was affiliated, in most cases on a visiting basis, but there would be a need for a small group of faculty members permanently located in the center to plan and administer both the educational programs for the house officers and continuing education programs for physicians and other health workers in the surrounding area. M.D. and D.D.S. candidates would receive part of their clinical instruction in such centers on a rotating basis. Within the hospital, or adjacent to it,

[1]Area health education centers are referred to as AHECs throughout the text and extracts.

there would have to be office space for faculty members and other administrators of the educational programs as well as classrooms. Like the university health science centers, the AHECs should cooperate with comprehensive colleges and community colleges in planning curricula for allied health workers.

The functions of AHECs would be as follows:

1. To maintain a community hospital of outstanding quality, many of whose patients would be admitted on a referral basis from smaller communities in the surrounding area
2. To conduct educational programs under the supervision of the faculty of the university health science center with which the area center is affiliated
3. To have these educational programs include:
   a. Residency programs
   b. Clinical instruction for M.D. candidates and D.D.S. candidates who would come there from the university health science center on a rotating basis
   c. Clinical experience for students in allied health programs
   d. Continuing education programs for health manpower in the area, conducted in cooperation with local professional associations
4. To provide guidance to comprehensive colleges and community colleges in the area in the development of training programs for allied health professions
5. To cooperate with hospitals and community agencies in the planning and development of more effective health care delivery systems
6. To conduct limited research programs concerned primarily with the evaluation of health care delivery systems.

In some of the sparsely settled states, AHECs would have to be affiliated with university health

science centers in neighboring states with larger populations. These arrangements should be worked out on a regional basis. . . .

In developing its suggestions for the location of AHECs, the Commission has carefully considered the following criteria: (1) distance from an existing university health science center, a developing center, or a recommended new health science center; (2) the population of the community and its surrounding area; and (3) the objective of providing for enough AHECs so that no portion of a state or region would be remote from such a center. Nevertheless, in sparsely populated states the centers would inevitably have to be farther apart than in more thickly populated states.

The Commission believes that the final selection of locations for AHECs should be based on careful regional planning. We are therefore *suggesting* the locations indicated by our analysis but are not firmly *recommending* them. However, we believe that the number of centers indicated by our analysis is probably quite close to the number that would be needed to provide adequate geographic distribution of such centers.

In addition to the criterion of geographic distribution, we have also applied a criterion of at least one university health science center or AHEC for every 1,500,000 persons in the larger metropolitan areas. On this basis, we are recommending the development of five AHECs in the Los Angeles metropolitan area, one in the San Francisco-Oakland metropolitan area (in the East Bay), two in Detroit, one in Pittsburgh, and one in the New York metropolitan area. . . .

We estimate that, if our recommendations for new university health science centers and suggestions for AHECs are carried out, by 1980 about 95 percent

of the population will be within no more than an hour's traveling time from a university health science center or an AHEC.

The Commission provided an important comment on the relationship between the university health education centers and the communities that would become involved in their AHECs (1970, pp. 46-47).

> Indeed, it is highly important that a genuine two-way relationship develop between university science centers and the communities adjacent to them. The health science centers can be a significant influence for improving the quality of health care and health manpower education in an area but should also be *responsive* to ideas and suggestions developed by community groups.
>
> In the past, university health science centers and their parent universities have not considered improvement of the quality of health care in their areas as *primary goals.* We are pleased to note that several medical schools have recently taken important steps in this direction. America's land-grant institutions have been responsible for remarkable advances in agriculture and the quality of rural life. Although they now tend to be philosophically remote from such a concept, university health science centers could well play a similar role in urban life. Social concern, especially among students, favors this attitude, so the time may be right for university health science centers to meet the challenges of helping communities develop model health care systems throughout the nation.
>
> Every health science center should encompass university activities related to the education of physicians, dentists, and other health professions. It should be capable of handling the most complex and sophisticated medical problems. It should serve as the

coordinating hub and reservoir of expertise for a system of institutions that may include area health centers, neighborhood health centers, rural clinics, hospitals, group practice organizations, and medical societies.

Although teaching hospitals affiliated with university health science centers will perform activities of the centers, there is no need for a teaching hospital to be owned by a health science center. In fact, a center that is not involved in the complex problems of owning a teaching hospital will have advantages over those that do.

The Commission recommends that university health science centers should be responsible, in their respective geographic areas, for coordinating the education of health care personnel and for cooperation with other community agencies in improving the organization of health care delivery. Their educational and research programs should become more concerned with problems of health care delivery and the social and economic environment of health care.

The Commission expressed its belief (1970, p. 33) that "physicians, dentists, and allied health workers are likely to be attracted to areas where there are well-developed AHECs. Our proposal, which calls for a broad geographic distribution of such facilities, should go far toward achieving more equitable geographic distribution of health manpower. Health personnel may be more willing to practice in remote, rural areas if there is a health education center within a reasonable distance."

The Commission cautioned (1970, p. 33) that more than such educational intervention might be needed to assure the movement of health personnel into remote, rural areas. "However, the full effect of such centers in attracting health manpower will doubtless not be experienced until a national health insurance system, perhaps with built-in features to provide special

financial and nonfinancial incentives to health personnel for locating in remote areas, becomes a reality. A national health service corps could also play a key role in bringing health personnel to areas now poorly served."

In the same vein the Commission noted a very important distinction (1970, p. 23-24).

> Throughout this report, a distinction is made between health care education and health care delivery. The Commission has not studied and is not competent to make recommendations about the most suitable patterns of health care delivery. But it emphasizes that adequate health care education, while a prerequisite to adequate health care delivery, by no means guarantees it. No matter how many health professionals are trained, and no matter how adequately medical education facilities are distributed throughout the nation, Americans will not receive adequate health care unless a system is developed to deliver health care to those who need it, regardless of income, geographic location, age, or race. Unless health education efforts are coordinated with changes in the existing pattern of delivery of health care, the Commission's recommendations will not have maximum impact upon the actual health of Americans.

In subsequent discussions between the AHEC project directors and federal officials, this distinction between health care education and health care delivery was to receive much attention.

Obviously, the Carnegie Commission report placed heavy emphasis on geographical redistribution of health personnel for the sake of underserved patient populations in rural areas or inner-city enclaves. The matter of specialty redistribution in medical and dental education, which was to figure prominently as an objective for the AHECs originally funded in 1972, was only briefly and obliquely discussed in the Carnegie report. It noted that one of the curricula reforms advocated by students

and deserving serious consideration was their search for less compartmentalized instruction and more emphasis on comprehensive medicine, with the patient viewed as an individual in a family and in an environmental situation that might have an important bearing on his condition. The Commission expressed its belief that many changes were needed in graduate medical education (1970, pp. 53-54).

> The deficiencies in residency training were clearly identified in the report of the Citizens Commission on Graduate Medical Education, which stressed among other things the need for (1) a more carefully integrated program for the resident, (2) responsibility of the entire faculty, rather than of individual departments, for continuous planning and evaluation of residency programs, and (3) the establishment of a permanent commission on graduate medical education for the purpose of planning, coordinating, and periodically reviewing standards for graduate medical education. There is also a need for providing a broader educational experience for the resident. In the teaching hospital, he tends to see acutely ill individuals, frequently with unusual conditions. He also needs experience that would come from periods spent in community hospitals, neighborhood clinics, convalescent facilities, and, where feasible, in doctors' offices.

This recommendation for providing residents with broader clinical experience in medical environments apart from that of the teaching hospital with acutely ill patients who frequently have unusual illnesses also implies providing experience for residents in primary care, which is more commonly encountered in community hospitals and clinics than in more heavily research-oriented university hospitals and clinics.

In essence, then, the Carnegie Commission advocated some decentralization of medical education away from university

health centers and into clinical situations available in AHECs with (by implication at least) more emphasis on primary care. At the same time it referred to regional planning within AHECs without specifying in any detail structures for regionalization. This decentralization of medical education would reduce pressure in many communities for additional medical schools and yet permit performance within the areas of many of the functions of medical schools without the enormous expenditures necessary to establish full-fledged medical schools. The Commission believed also that the decentralization of residency training, in particular toward relatively underserved areas, would help to correct maldistribution of physicians not only in the geographic sense, but also in the specialty sense.

Congressional Action in 1971

The Carnegie Commission report of 1970 appeared at a moment convenient for consideration by the federal government preparatory to its adoption of legislation with regard to health in its Comprehensive Health Manpower Training Act of 1971 (PL 92-157, November 18, 1971). In his health message to Congress on February 22, 1971, President Nixon called for the development of AHECs in areas which were medically underserved "as the Carnegie Commission on Higher Education has recommended. These centers would be satellites of existing medical and other health science schools; typically they would be built around a community hospital, a clinic, or an HMO which is already in existence. Each would provide a valuable teaching center for new health professionals, a focal point for the continuing education of experienced personnel and a basis for providing sophisticated medical care services which would not otherwise be available in these areas" (Nixon, 1971, p. 250).

Secretary Richardson of the Department of Health, Education, and Welfare presented the administration proposals before the House Subcommittee on Public Health and Environment (1971a); after expressing the need to effect a geographic and specialty redistribution of health professionals, he stated (p. 454):

> As pointed out in the Carnegie Commission's report, AHECs are potentially a particularly promising means of achieving these objectives. They provide training programs in educational activities directly associated with a community hospital, clinic, or health maintenance organization, and with one or more educational institutions located in areas too sparsely populated to support a medical school.
>
> They would be responsive to the health manpower needs of the service area in which they are located. Experience has shown that when a health training center is established in a given locality the range and quality of health services available to the people of the community rise. These centers will expose students, interns, residents, and other health professionals to the health-care problems in their surrounding communities. They would tend to encourage such individuals who received their training in that area to remain there to practice.

Secretary Richardson spoke in a similar vein about AHECs before the Senate Subcommittee on Health (1971b, p. 162).

The House health manpower bill developed after these hearings included both a program context for, and specific reference to, AHECs as proposed by the administration; the Senate bill did not. The conference bill, however, which became the Comprehensive Health Manpower Training Act of 1971 included a program context in its section 774(a) on Health Manpower Education Initiative Awards but did not include specific reference to AHECs. In the text that follows I have added the emphases to call attention to the thrust of this enabling legislation for programs of *educational* initiative or intervention, but not specifically for programs of health services delivery. Although such educational programs may have a bearing on health services delivery, this is a difference between the immediate objectives of the programs recommended in the Carnegie Commission report (1970) and implied in Secretary Richardson's

comment (1971a) and that in the legislation. The act reads as follows:

> Health Manpower *Education* Initiative Awards
>
> Sec. 774(a)(1) For the purpose of improving the distribution, supply, quality, utilization, and efficiency of health personnel and the health services delivery system, the Secretary may make grants to public or nonprofit private health or educational entities, and may enter into contracts with public or private health or educational entities, for projects –
>
> (A) to encourage the establishment or maintenance of programs to alleviate shortages of health personnel in areas designated by the Secretary *through training or retraining* such personnel in facilities located in such areas or to otherwise improve the distribution of health personnel by area or by specialty group;
>
> (B) *to provide training programs* leading to more efficient utilization of health personnel;
>
> (C) to initiate new types and patterns or improve existing patterns of *training, retraining, continuing education, and advanced training* of health personnel, including teachers, administrators, specialists, and paraprofessionals (particularly physicians' assistants, dental therapists, and pediatric nurse practitioners);
>
> (D) to encourage new or more effective approaches to the organization and delivery of health services *through training* individuals in the use of the team approach to delivery of health services and otherwise; or
>
> (E) to assist state, local, or other regional *arrangements among schools and related organizations and institutions* to carry out the purpose of this subsection.

It should be noted that the act authorizes the secretary to support projects for training or retraining personnel intended "to improve the distribution of health personnel by area or by specialty group." The reference to specialty group clearly has to do with the problem of maldistribution among physicians between the specialists who were increasing in numbers and the primary physicians who were decreasing in numbers with the decline of old-style general practitioners. Although this problem was only obliquely referred to in the Carnegie Commission report, it had been extensively presented in the Millis Report of 1966, *The Graduate Education of Physicians* (American Medical Association, 1967); in addition a particular model to replace the general practitioner was presented in *Meeting the Challenge of Family Practice* (American Medical Association, 1966). The general discussion of these reports and actions related thereto clearly influenced the 1971 legislation, which provided several specific opportunities for support of family medicine and primary care professionals, thereby emphasizing a need to affect the distribution of physicians by specialization as well as by area.

Initiation of Federal Support for AHECs in 1972

For some months after the passage of the act, a substantial debate continued within the Department of Health, Education, and Welfare (DHEW) about the organizational character of the AHECs to be implemented. At issue was whether an AHEC was to be a broadly based nonprofit community corporation that would subcontract with an educational institution and a clinical facility (such as a hospital for programmatic services) or whether an AHEC was to be an established health care institution (such as a community hospital or consortium of hospitals) developed in partnership with a health science center. Some federal officers and some representatives of Regional Medical Programs (RMPs) were vigorous protagonists for lodging the control of AHECs in RMPs and disagreed with the principle that

the AHECs' educational programs should be supervised by medical schools or university medical centers. Others argued against RMP control of AHECs on the grounds that a significant part of an AHEC's activity should be opportunities for clinical education for medical, dental, and other health professional students and for residents, and that the quality of such educational experience required supervision and affiliation with medical schools and other health professional schools. There was also a debate as to whether the AHEC program at the federal administrative level would be the responsibility of the Veterans Administration (VA), the RMPs, or the Bureau of Health Manpower Education (BHME, later the BHRD, Bureau of Health Resources Development).

In a DHEW memorandum on March 11, 1972, the Assistant Secretary for Health, Dr. DuVal, stated: "It is beyond contention that the Carnegie Commission report was the original authority for the term 'Area Health Education Center.' In its use of the term, the Carnegie Commission had referred to an 'outreach' or other formal affiliation between such a center and an existing academic health sciences center including a college of medicine." The responsibility for administering federal support of AHECs in conformity with the Carnegie model, that is, through contracts with university health centers, was assigned by June to the BHME in DHEW by the Office of Management and Budget.

Finally on June 12, 1972, the BHME released a letter of announcement of a program for the support of AHECs, which was sent to all who had requested information regarding the "Health Manpower Initiative Awards" of the Comprehensive Health Manpower Training Act of 1971. Recipients were asked to note the stringent time constraints. They were told that the government would refuse to consider any response postmarked later than June 25, 1972, to this announcement of June 12, 1972. Eligible institutions intending to apply for developmental or operational support for an AHEC were told that they should respond "in the form of a letter stating this intent, and in not more than 2 or 3 pages, describe the major features of the proposed AHEC, the extent to which collaborative relationships

can be assured, and the ways in which the proposal responds to the underlying theme of manpower shortage and medically underserved geographic area."

The announcement indicated that contract proposals would be reviewed by a panel of nonfederal advisors whose evaluations and recommendations would be taken into account in making the awards. It also stated that contracts would be awarded no later than September 30, 1972. (In any consideration of the history of the first 11 AHECs, the short time span between the announcement of the federal program on June 12 and the award of contracts on September 30 should be kept firmly in mind.) The letter also contained a long-term commitment unusual for the federal government: "long-term support, up to five (5) years, is envisioned, subject to the availability of appropriations, extension of the legislative authority after June 30, 1974, and successful performance by the contractor."

The letter indicated that a Request for Proposal (RFP) would be sent to the institutions selected in a preliminary screening. Of the 85 institutions that indicated an intention to apply, 27 were selected to receive the RFP. Of the 27 selected, 11 were finally chosen to receive actual contracts in fall 1972.

The letter of June 12, 1972, and the RFP sent a few weeks later to the applicant institutions chosen in the first screening are the two most important documents defining the overall character and objectives of AHEC programs as prescribed by the federal administration. These documents reveal that BHME followed Assistant Secretary DuVal's instructions in adhering closely to the Carnegie Commission's concept of an AHEC. In the light of certain aspects of subsequent history, it is desirable to have a clear understanding of the tenor of the documents.[2]

The letter defines an AHEC as follows: "An AHEC has as its nucleus a public or nonprofit hospital, usually a community hospital or a consortium of hospitals. It is located at some distance from a school of medicine or osteopathy or a university health science center, all of which are referred to in this document as a 'medical center.' It also has a written agreement with

[2]The description of developments in 1972 here presented follows closely that of E. S. Mayer, M.D. (1975).

the medical center which provides for the effective supervision by the medical center of mutually selected educational programs conducted in the hospital."

The letter further stated that, in addition to providing outpatient and inpatient medical services and serving as a referral center for other patient care facilities (presumably the usual functions of the community hospital or consortium of hospitals at the nucleus of the AHEC), the center would also conduct, under the direction of the medical center, educational programs. It specified that the AHEC

> A. will conduct under the guidance and supervision of the medical center the following educational programs:
>
> 1. Continuing education for physicians
> 2. Residency training programs, including but not limited to, primary care, e.g., family, internal, and pediatric medicine
> 3. Clinical instruction for undergraduate medical or osteopathic students
>
> B. should provide the following:
>
> 1. Continuing education for other health practitioners in the area
> 2. Clinical instruction for other undergraduate professional students; e.g., dentistry, allied health, or nursing

The RFP from the BHME which followed was in general consistent with the letter of announcement but provided further elaboration. The general purpose of the enabling authority for education initiative awards in the 1971 act was stated to be to improve the distribution, supply, quality, utilization, and efficiency of health personnel so as to bring into balance health manpower needs and resources, with emphasis on contracts that dealt with needs in manpower shortages and medically underserved areas. Hence:

> The centers [AHECs] should be designed to help fill unmet health needs and to achieve a more balanced relationship between the areas that have reasonably good health manpower supplies and those that do not. The concept provides encouragement for the university health science center to assume a new type of responsibility, with the active participation and collaboration of the communities in the less well-endowed areas, in recruitment, training, education, utilization, and distribution of health manpower to meet identified needs and thereby to enhance the quality, accessibility, and availability of health services to the people in the service area.
>
> An AHEC is therefore a new institutional arrangement developed through a medical center to supply manpower and leadership resources to meet community health service needs. It is designed to link the educational institutions and health care facilities and resources so that these total resources can be related in a way that best meets the health service needs of the defined community or area.

To fulfill this purpose, calling for a new type of responsibility for university medical centers in conjunction with communities in less well-endowed areas, the RFP described in greater detail the objectives, functions, and characteristics of AHECs. But first it noted: "Each area that has the necessary health service and educational components and resources for an AHEC will, because of its local characteristics, differ from others in the extent and kind of needs, resources, and the manner in which those presently relate to one another."

While recognizing the existence of diversity among local areas, the RFP did describe certain "broad AHEC objectives . . . intended to provide a guide for those electing to initiate and implement an AHEC." To paraphrase these *objectives* in somewhat abbreviated form, the contracting institution would be expected to:

1. Identify educational targets and priorities for health manpower and match educational programs to these needs.
2. Provide educational activities for house officers, medical students on rotation from the university, allied health students, and provide continuing education programs.
3. Create a professional environment to attract and retain health manpower in medically underserved areas.
4. Provide leadership in developing health planning (and other) agencies.
5. Assist in developing and evaluating both traditional and new health careers and career ladders in the context of local needs and employment opportunities for local residents.
6. Implement a program of affirmative action.

The RFP then described a number of *functions* (i.e., activities) to be engaged in by every AHEC (or carried out under its auspices) to address the stated objectives. Granting that there may be differences from one AHEC to another, it stated the expectation that each AHEC, as a minimum when fully functional, would be performing many of the following functions:

1. Conducting the following education and training programs:
   a. Clinical instruction of undergraduate medical, osteopathic, and other health professional students, e.g., dentistry, allied health, or nursing
   b. Residency training including but not limited to primary care, e.g., family, internal, or pediatric medicine
   c. Continuing education and retraining of health manpower
   d. Interdisciplinary training as health care delivery team members
   e. Undergraduate or basic education of one or more types of health manpower, e.g., health professional, allied health, or technical and support personnel
2. Assist educational institutions and health care facilities in developing training programs and provide technical assistance

to preprofessional schools for admission to health professional curricula, especially to help the disadvantaged and minorities

3. Assist in health manpower planning
4. Analyze tasks of health manpower to effect improved training programs
5. Assist in programs leading to more effective recruitment, especially of local residents and minorities, for a higher retention of manpower in underserved areas
6. Consider problems of accreditation, certification, licensure, and registration from the public interest standpoint, including the use of equivalency and proficiency testing
7. Assess the influence and impact of its educational activities on health manpower production, distribution, utilization, and effectiveness in the area served

Finally the RFP listed certain *characteristics* of the AHEC program. Still accepting that there would be differences in the organizational, geographic, and other characteristics, each AHEC when fully operational was expected to incorporate certain characteristics:

1. A well-defined geographic area (which need not conform to political jurisdictions)
2. Formal linkages and working relationships from the medical center to and among the following kinds of agencies, institutions, and organizations in or related to the area served:

Required

a. Clinical facilities

b. At least one institution of higher education which can or will have preclinical educational requirements for a range of allied health preparatory programs

Desirable

a. Appropriate public and nonprofit private health and related organizations in the area (presumably hospitals and clinics)

b. Local VA hospitals

c. Local and state professional organizations
d. A wide range of other educational institutions
e. Agencies with programs of public education

3. Appropriate coordination with the Comprehensive Health Planning Agency and the Regional Medical Program
4. An advisory group from cooperating agencies and institutions

The RFP indicated the government's intention to use the contract form of relationship over a five-year period with the successful applicant medical centers: "It is the intent of the government to provide sustaining support for AHECs for periods up to five years. Therefore an 'incrementally funded contract' will be used for this purpose. This type of contract is one in which a total effort or project is described, covering a multiple year period, and under which funds are allotted from time to time to cover increments of performance. The authorization to initiate the increments will depend on the demonstrated success of the program, the availability of appropriations, and satisfactory performance by the contractor."

In response to the letter of announcement and the ensuing RFPs, contracts were awarded in fall 1972 to:

University of California at San Francisco
University of Illinois
University of Minnesota
University of Missouri (Kansas City)
University of New Mexico (serving the Navajo Reservation in the four-corner area of New Mexico, Arizona, Utah, and Colorado)
University of North Carolina
Medical University of South Carolina
University of North Dakota
University of Texas Medical Branch, Galveston
Tufts University (serving Maine)
West Virginia University

The Changing Governmental Administrative Scene[3]

The awards of contracts to the 11 successful AHEC bidders were made in September 1972, only 3½ months after the letter of announcement was issued, with only 2½ months being available (1) for the 27 medical centers requested to respond to the detailed RFP to develop their proposed work schedule, spread over a five-year period, with an indication of specific activities involving the working of more than one health science faculty in collaboration with institutions at remote sites, such as hospitals, clinics, colleges; and (2) for the DHEW staff to conduct the selection process to determine which among the 27 applicants would be awarded contracts. The participants in this complex process obviously had to work with great speed to meet the deadline; neither the applying institutions nor the federal administrators had the time for anything like extensive preparation or review. That there were great differences among the 11 AHECs finally chosen should therefore surprise no one.

The national AHEC office not only had to work fast; it also was understaffed from its inception, with only three professional employees to supervise relations with 11 projects widely scattered over the nation. In November and December 1972 and January 1973, this small staff visited the projects on site to

[3]In February 1978 an extensive description and critique of the federal government's administration of the AHEC program initiated in 1972, including a brief sketch of the rise of the program followed by a description of contracting and funding, program organization and staffing, program monitoring, coordinating AHECs with related federal programs, evaluation efforts, accomplishments, and finally, thoughtful observations and conclusions thereon was completed (U.S. Congress, 1978, pp. 351-469). The changing administrative situation within DHEW is described, particularly on pp. 418-439. An additional source of information is found in the response to a request for information from the congressional surveys and investigation staff contained in a letter of reply dated December 23, 1977, from Daniel R. Smith, Chief, AHEC staff and National Coordinator and the only federal official in the executive branch who has been associated with the federal AHEC program since its implementation. My brief presentation here is based on these two documents and comments from individuals associated with the administration of the 11 AHECs.

begin an acquaintance with them, their personnel, and their programs.

However, these DHEW Washington officials were hardly in the saddle when responsibility for administering health manpower programs was decentralized to the regions by executive mandate in July 1973, with the 11 AHECs assigned to eight different regions. Responsibility for allocation of AHEC funds remained at the central office in Washington, whose staff was reduced to the national coordinator and a part-time clerk-typist until mid-1975. Functions such as monitoring the AHEC projects and negotiating contract modifications and extensions became the responsibility of the regional offices. Conditions were chaotic because the central office was crippled and the regional offices were slow in building staff. New program officers had to learn about the unusual and complex programs of multi-institutional character; and new contracting officers had to learn about the procurement problems peculiar to the AHEC type of operation. The results were a fragmented approach to management and inconsistent contract administration. The situation was further affected by difficulties about the line of authority between the regional offices and the central AHEC office. Effective project monitoring became minimal. It is not surprising that the representatives of the AHEC projects found their relationships with the federal officials frustrating during this period of building new relationships with a different bureaucracy in the regional offices. But this was not to be the last administrative upheaval in this five-year period.

A major shift again occurred as a result of the Health Professions Educational Assistance Act (PL 94-484), enacted on October 12, 1976, which directed that the administration of health manpower programs be recentralized effective October 1, 1977. In preparation for recentralization, the central office staff of two professionals assumed responsibility for preparing and negotiating the sixth-year contracts awarded in September 1977. However, the regional offices continued to be responsible for monitoring the remaining portion of the initial five-year contract and maintaining the official project files. The assembly of staff for ultimate recentralization was as slow as

assembly of staff for decentralization four years previously, imposing a hectic and uncertain burden on both federal and institutional officials linked with responsibilities for AHEC contracts.

In addition to the changing of governmental personnel brought about by decentralization and recentralization at DHEW, there was a substantial shift of personnel associated with the presidential change of administration early in 1977. Only one professional DHEW staff member associated with the AHEC program survived amid the various changings of the guard from 1972 to the present. The project directors from the 11 AHEC institutions have had to explain the origins of AHEC, its goals and objectives, its problems and difficulties, and the history of their activities (as well as justifying contractual relations and requesting changes) to an unending succession of federal officers.

Under these circumstances, it is not surprising that discussion about the AHEC program has continued at the congressional level and in the executive branch, ending in defining and redefining the conditions for the AHEC program. However, the loose, if frustrating, reign of the federal government over the AHEC contracts has left the original AHECs relatively free to experiment with outreach programs in professional education in a great variety of underserved areas without being hindered by a federally imposed, preconceived prescription for a particular model as *the* way to conduct outreach programs. Out of this federal confusion, some good may, therefore, have come, as I shall discuss later.

Revision of Legislation Affecting AHECs in 1975 and 1976

The original 11 AHEC contracts awarded in 1972 for a five-year period had been based upon the congressional authorization contained in Section 774(a) of the Comprehensive Health Manpower Training Act of 1971. This act came up for review and reconsideration in 1975. Extensive hearings were held by the House Committee on Interstate and Foreign Commerce (U.S. Congress, 1975) and then by the Senate Committee on Labor and Public Welfare (U.S. Congress, 1976a). On the basis of the

testimony in these hearings, both houses reaffirmed an interest in the continuance of federal contracts in support of AHECs. They recognized AHECs as a promising strategy to effect much-needed geographic and specialty redistribution of health manpower through greater decentralization of health professions education and greater regionalization of educational responsibilities of health professions schools.

Unlike the action in 1971, both houses adopted for their proposed legislation language that specifically named, and described in some detail the specifications for, AHECs. The House committee, after a brief reference to the original 11 AHECs, described at some length the AHEC based at the University of North Carolina—"the AHEC program with which the committee has become the most familiar." The committee stated its recognition that "flexibility is necessary so that AHECs may utilize the resources of medical and other health professional schools and of surrounding communities to meet the needs of students and address the particular health problems of areas served by AHECs." Even so it rewrote the law "to require that certain structural and performance requirements be met," declaring, however, that it had "not made the requirements so rigid as to preclude the development of AHECs in virtually any geographical region of the United States." This optimistic judgment will be reconsidered later in the light of the experience of the 11 original AHEC projects.

The House committee specified three principal activities in which all AHECs must engage: (1) programs to train residents of schools of medicine and osteopathy in the primary care specialties of family medicine, general internal medicine, general pediatrics, psychiatry, and obstetrics and gynecology; (2) programs to train or retrain health personnel in areas served by AHECs; and (3) programs to provide health education to the general public. Programs to train undergraduate students (including medicine) were not required but were not prohibited either.

To ensure that the required activities would address the particular needs of an area, the House proposed certain requirements on new and existing AHECs: the applicant institution

must demonstrate that it has assessed the area manpower needs, that it will provide programs designed to address those needs, and that it will provide for periodic review of those needs by health experts. Further, each applicant must be affiliated with at least three degree- or diploma-granting educational programs, one of which must be a medical school or school of osteopathy. Each applicant must also provide training in area health education centers for at least six weeks a year to at least 50 percent of the students enrolled in the primary care residency programs offered by its school of medicine or osteopathy. Finally, continuous attention to local needs must be addressed by frequent consultations with appropriate local, regional, state, and federal agencies, and through receipt of recommendations from the local advisory boards that must be established for each center. The House bill stipulated specifically that such local advisory boards: (1) should be composed of consumers of health services residing in the area served by the center; (2) should, as a group, represent the residents of that area, taking into consideration employment, age, sex, race, place of residence, and other demographic characteristics; and (3) should meet on a regular basis (not less than twice a year) for purposes of determining the center's responsiveness to the health manpower needs of the area and making recommendations to the center with respect to the provisions of health manpower in the area.

The House committee's only general criticism was that none of the original 11 AHEC programs addressed the health problems of inner-city urban areas; hence, the committee expected that a significant proportion of AHECs developed under the new law would be designated to affect those areas (U.S. Congress, 1975, extracts above are from pp. 34-38, 204-206).

Senate committee action came almost a year later in May 1976, when it reported that it was "impressed with the area health education center programs" (U.S. Congress, 1976a). Believing that AHECs could improve health service in rural and inner-city areas, the committee included in its bill (as did the House) specific authority for the continuance and the expansion of the AHEC program. It described the AHEC program as a "cooperative program" involving a medical or osteopathic

school and one or more nonprofit public or private area health education centers located in areas removed from the sponsoring school. However, the report reveals doubts about the quality of medical faculty commitment to decentralization, which I heard echoed in conversations with persons who were participants in the federal process at the time.

A number of requirements were included in the Senate bill--in the committee's words, *"to ensure the full commitment of the medical or osteopathic school to the success of the AHEC program"* (emphasis added). Mentioned in the committee's comments as important requirements placed on the schools were: (1) No less than 10 percent of all undergraduate clinical education conducted by the school must be conducted in the geographic area served by participating centers; and (2) the school must be responsible for conducting a nurse practitioner or physician assistant training program, and must include participation in the program by two other health science disciplines, one of which must be dentistry if a dental school exists in the sponsoring health science center.

Still other requirements concerning the local AHECs were mentioned; each participating center must provide for, or conduct: (1) an accredited family practice or general internal medicine residency training program; (2) a program of continuing education for physicians and other health professionals practicing in the area; (3) a program of continuing education and other support for all National Health Service Corps sites within the area; and (4) the offering of educational opportunities at sites throughout the area for medical and other health professions students. The bill also provided that each center should have an advisory board, at least 75 percent of whose members must be residents of the area served by the center; it also required that at least 75 percent of the total federal funds provided to an AHEC program must be expended in the geographic area served by participating centers.

The Senate committee left no doubt of its intent to ensure significant participation by medical schools through the placing of specific conditions upon their AHEC activity and at the same

time its intent to avoid control by them of an AHEC program. It stated (emphases added):

> The committee's goal in establishing such conditions for contracts for AHEC programs is *to ensure that the programs supported will be as efficient and effective as possible in improving the delivery of health services to populations which are currently underserved. The committee believes that in order for such programs to be effective, there must be significant participation by a school of medicine or osteopathy. It is important that the strengths and resources of one of these institutions support the program. At the same time, the committee believes that a medical or osteopathic school should not control an AHEC program.* For this reason, the committee bill provides for 75 percent of the funds provided an AHEC program to be expended in areas served by participating AHECs. *Since such centers are to be operated by local boards, the major control over the AHEC program will be by local communities.*

The Senate committee, like the House, noting that the existing 11 AHEC programs emphasized the improvement of services in rural areas, also called for the establishment of AHEC programs that would serve urban areas (U.S. Congress, 1976a, extracts above are from pp. 243-244, 440-442).

It fell to the lot of a conference committee (U.S. Congress, 1976b) to reconcile the differences between the bills passed by the House and Senate. The bill as finally passed by both houses, on October 12, 1976, became the Health Professions Educational Assistance Act (PL 94-484). Section 781, Area Health Education Centers, superseded Section 774, Health Manpower Education Initiative Awards, of the Comprehensive Health Manpower Training Act of 1971, upon whose authorization the original 11 AHECs had received federal contracts. The revised text in the 1976 law concerning AHECs follows, with comments inserted in italics:

Sec. 781. (a) For the purpose of improving the distribution, supply, quality, utilization, and efficiency of health personnel in the health services delivery system and for the purpose of encouraging the regionalization of educational responsibilities of health professions schools, the Secretary may enter into contracts for projects to assist in the planning, development, and operation of area health education center programs.

(b) An area health education center program shall be a cooperative program of one or more medical or osteopathic schools and one or more nonprofit private or public area health education centers. *[Note that the medical or osteopathic school is designated as the educational entity to cooperate with one or more area health education centers.]*

(c) Each medical or osteopathic school participating in an area health education center program shall—

(1) provide for the active participation in such programs by individuals who are associated with the administration of the school and each of the departments (or specialties if the school has no such departments) of internal medicine, pediatrics, obstetrics and gynecology, surgery, psychiatry, and family medicine. *[Note the emphasis on active participation in the AHEC program not only by persons associated with the administration of the school at large but also by those associated with the major clinical departments in the medical school.]*

(2) provide that no less than 10 percent of all undergraduate medical or osteopathic clinical education of the school will be conducted in an area health education center and at locations under the sponsorship of such center.

[Note the requirement for decentralization of at least 10 percent of the clinical education of the medical school's undergraduate students.]

(3) be responsible for, or conduct, a program for the training of physician assistants (as defined in section 701 [7] or nurse practitioners (as defined in section 822) which gives special consideration to the enrollment of individuals from, or intending to practice in, the area served by the area health education center of the program; and

(4) provide for the active participation of at least two schools or programs of other health professions (including a school of dentistry if there is one affiliated with the university with which the school of medicine or osteopathy is affiliated) in the educational program conducted in the area served by the area health education center.

(d) (1) Each area health education center shall specifically designate a geographic area in which it will serve, or shall specifically designate a medically underserved population it will serve (such area or population with respect to such center in this section referred to as "the area served by the center"), which area or population is in a location remote from the main site of the teaching facilities of the school or schools which participate in the program with such center.

(2) Each area health education center shall—

(A) provide for or conduct training in health education services, including education in nutrition evaluation and counseling, in the area served by the center;

(B) assess the health manpower needs of the area served by the center and assist in the planning and development of training programs to meet such needs;

(C) provide for or conduct a medical residency training program in family medicine, general pediatrics, or general internal medicine in which no fewer than six individuals are enrolled in first-year positions in such program. *[Note the requirement for decentralization of graduate medical education also, at least to the extent of establishing in each AHEC a medical residency training program in family medicine, general pediatrics, or general internal medicine in which no fewer than six individuals will be enrolled in first-year positions.]*

(D) provide opportunities for continuing medical education (including education in disease prevention) to all physicians and other health professionals (including allied health personnel) practicing within the area served by the center;

(E) provide continuing medical education and other support services to the National Health Service Corps members serving within the area served by the center;

(F) encourage the utilization of nurse practitioners and physician assistants within the area served by the center and the recruitment of individuals for training in such professions at the participating medical or osteopathic schools;

(G) arrange and support educational opportunities for medical and other students at health facilities, ambulatory care centers, and health agencies throughout the area served by the center; and

(H) have an advisory board of which at least 75 percent of the members shall be individuals, including both health service providers and consumers, from the area served by the center. *[While the original House version spoke of an advisory board of consumers from the area, the act provides for an advisory board* of consumers

and health providers, *only 75 percent of whom must be consumers and health providers from the area.]*

(e) The Secretary is authorized to enter into contracts with medical and osteopathic schools, which have cooperative arrangements with AHECs, for the planning, development and operation of AHEC programs. In entering into contracts under this section the Secretary shall assure that—

(1) at least 75 percent of the total funds provided to any school shall be expended by an AHEC program in the AHECs;

(2) not more than 75 percent of the total operating funds of a program in any year shall be provided by the Secretary. *[No cost-sharing requirement had been stated in the 1971 legislation on which AHEC contracts were based, but the DHEW's BHME in its request for proposals in summer 1972, while indicating the government's intent to award a contract with incremental funding features over a five-year period, also indicated its intent that the contracts be cost shared. While it did not stipulate any figure for cost sharing, it did ask the contracting institutions to show the amount of cost sharing involved in the program. Cost sharing is written into this new law, the Secretary of DHEW being instructed to provide not more than 75 percent of the costs of the program in any year.]*

(3) no contract shall provide funds solely for the planning or development of such a program for a period of longer than two years.

(f) For the purpose of this section the term "area health education center program" means a program which is organized and operated in a manner described in subsection (b) and which is capable, as determined by the Secretary, of performing each of the functions described in subsection (d) (2). The Secretary shall,

by regulation, establish standards and criteria for the requirements of this section.

(g) There are authorized to be appropriated to carry out the provisions of this section $20,000,000 for the fiscal year ending September 30, 1978, $30,000,000 for the year ending September 30, 1979, and $40,000,000 for the fiscal year ending September 30, 1980.

The net effect of this congressional review in 1975 and 1976 was a substantial shift in the congressional rules affecting federal support of AHECs. The 1971 act had provided a broad authorization by which the Secretary of DHEW was permitted to enter into contracts with educational entities to encourage the establishment or maintenance of programs to alleviate shortages of personnel in areas designated by the Secretary through training or retraining such personnel in facilities located in such areas or to otherwise improve the distribution of health personnel by area or by specialty group. Within this very broad language DHEW had constructed a request for proposals for AHEC programs serving the objectives of decentralization and regionalization of health education as suggested by the Carnegie Commission report. While the form of the contracts called for detailed statements of the scope of work year by year over a five-year period, the selection of the type of work, the designation of collaborators, and the costing was largely left for determination by the contracting educational institutions. As described above, circumstances within DHEW had tended to encourage loose monitoring and control by federal officers of the detailed content of the university medical centers' AHEC programs, each institution being left free to determine the specific actions by which it endeavored to meet the general objectives of an area health education program as defined in the Carnegie report of 1970 and the DHEW RFP of 1972.

The 1976 law produced a very different situation. The House committee, although recognizing that flexibility was necessary to permit the use of resources of medical and other health

professions schools to address the particular health problems of areas served by AHECs, had proposed certain structural and performance requirements, declaring, however, that it had not made the requirements so rigid as to preclude the development of AHECs in virtually any geographical region in the United States. The Senate committee even more pointedly expressed its intent to place performance requirements on the medical schools, while at the same time confessing its belief that the medical schools should not control the AHEC programs and that major control should be in the hands of local boards representative of local communities.

That the new rules developed by Congress constituted a considerable change from the old rules so far as their impact on the original 11 schools with AHEC contracts is concerned was admitted by the Conference committee (U.S. Congress, 1976b, p. 130): "The conferees recognize that the provisions of the new authority for AHEC programs are such that many existing AHECs are not in compliance with them. In the view of the conferees, these centers have been given sufficient time under the provisions of the conference report to meet the new requirements. It may be, however, that in the case of the AHEC program located in New Mexico, the principal thrust of the program—the training of Indian people in health professions—cannot be continued under the new provisions. If this becomes the case, then it is the intent of the conferees that the Secretary afford special consideration to the funding of the program under other provisions of law."

The Conference committee's reference to "sufficient time to meet the new requirements" by the original 11 AHECs alludes to the transitional provisions in Section 802(a) of Public Law 94-484 which authorizes, for the fiscal year ending September 30, 1978, and for the next fiscal year, such appropriations as may be necessary to continue payments to the institutions which received contracts for AHEC programs under the 1971 law, "except that no payment shall be made to an entity under such a contract in the fiscal year ending September 30, 1979, unless the entity provides assurances satisfactory to the

Secretary that not later than September 30, 1979, the project for which the payment is to be made will be a project" as described in the 1976 law and meets the requirements of the later law. This section thus provided a specific statutory base for continuing federal funding of the original AHEC programs into the sixth and seventh year providing that they had come into conformity with the new requirements by the seventh year.

The Carnegie Review of AHECs in 1976

While the Congress was reviewing and revising legislation affecting its support of AHEC programs, the successor to the Carnegie Commission on Higher Education, the Carnegie Council on Policy Studies in Higher Education, was also developing recommendations concerning health education, which were published in its report *Progress and Problems in Medical and Dental Education* (1976). The Carnegie Commission in 1970 had foreseen a need for increased numbers of first-year entrants into the nation's medical schools and had recommended an increase to 15,300 by 1976 and to 16,400 by 1978. To achieve this larger enrollment it had recommended, beyond the 27 medical schools then being established, the addition of 9 new schools, a number far short of the 70 additional schools then being considered throughout the country. In place of the establishment of a larger number of new schools, it had recommended that part of the increased facilities needed for the larger number of medical students be provided through the development by medical schools of outreach educational activities located in AHECs.

The Carnegie group reviewing these recommendations in 1976 noted that the 15,300 first-year enrollment had already been achieved in 1975, a year earlier than projected in 1970, and expressed concern over an impending surplus of medical graduates. (See Carnegie Council, 1976, pp. 86–95.) It noted that, beyond the 9 new medical schools recommended by the Carnegie Commission in 1970, 8 of which were in some form of development, there were 13 others under development which the Commission had not recommended. Most of these 13 it regarded as excessive. It conceded that special consideration might be granted to two schools because of the likelihood that they

would encourage members of minority groups to train for the medical profession (blacks at Morehouse in Atlanta, and Navajos at Window Rock, Arizona), but it doubted that even these should become four-year medical schools in the foreseeable future.

As for the others, the Council seriously questioned whether they should be established. Five of the new schools had received federal funds from the Veterans Administration which had been authorized by Congress in 1972 to provide assistance to states for the establishment of new medical schools. The Council believed that the hope of such funds had encouraged two states to start what it regarded as unnecessary schools. Hence it recommended that this authorization for the VA be repealed by Congress and that all decisions relating to start-up funds and construction funds from federal sources be centralized with the Secretary of DHEW. The Council, however, continued to recommend the establishment, on grounds of adequate geographic distribution, of a school at Wilmington, Delaware, the ninth in the list recommended by the Commission in 1970.

The Carnegie Council reaffirmed faith in the AHEC concept, regarding the formation of AHECs "as one of the most encouraging and impressive developments under the 1971 legislation." It noted that, in addition to the 11 AHECs funded in 1972 by the BHME, there were 8 developed under the VA, and a far larger number under the RMP, although the latter were not really fully developed, comprehensive AHECs.[4] Despite the continued existence of some community-based AHEC types, the Carnegie Council reasserted its preference for the "Carnegie Model Consortium"—a consortium of health-care providers and educational institutions with linkage to a central medical or university health science center that provides central coordination and is responsible for developing cooperative educational programs with and among institutions at local levels (1976, p. 99). It added in justification: "Because we regard clinical training programs as the central core of a fully developed AHEC program,

[4] For a further description of these several programs, see Miike and Ross (1975, pp. 242-251).

we consider affiliation with a university health science center essential. There can be little dispute over the need for health science center supervision over clinical training in an AHEC setting for M.D. and D.D.S. candidates, and the clear preferences of U.S. medical graduates for residency programs affiliated with a medical school are just one of the many types of evidence that close supervision by faculty members of a university health science center is considered indispensable for a high-quality residency program" (1976, pp. 100-101).

The Carnegie Council noted that, although the development of AHECs received decided impetus from the Carnegie Commission recommendation and the federal and legislative developments of 1971, there were a number of antecedents involving elements of the AHEC concept or system, although not called by this name. It made reference to residency programs in Cooperstown, New York, and the impact of the Mayo Clinic on medical care in southeastern Minnesota, of the Duke Foundation on rural care in North and South Carolina, and of the Bingham Associates on hospital care in Maine. It called attention to the efforts of individual states in recent years to encourage decentralized medical education programs, noting that by 1974 nine states had significant developments of this type and three others had them under serious consideration.

In summation, then, the Carnegie Council strongly supported the continued development of AHECs along the lines prepared in Congress in 1976 and recommended that the Secretary of DHEW be given authority to make matching grants for the development of AHECs and that the authority for approval of allocation of federal funds for AHECs be centralized with the Secretary of DHEW (1976, pp. 96-113).

Administrative Implementation of the 1976 Act

In conformity with the increasing interest in the country in AHEC activity and its approval of the AHEC strategy, Congress authorized the expenditure on AHEC contracts with medical or osteopathic schools of $20 million for the fiscal year ending September 30, 1978, and for the next two successive years $30

million and then $40 million. These sums are considerably higher than those involved previously, $65,268,961 having been awarded to the original 11 AHECs over the five-year period from 1952 through 1957.

By late spring 1977 the Health Resources Administration of DHEW had developed a Request for Proposal (RFP No. HRA 231-7E-0587) based upon the provisions of the 1976 law. The RFP for new applicants for AHECs emphasized the government's strong interest in aiding urban AHECs to meet the special needs of the inner city in addition to its interest in rural AHECs. It announced the intent of the government to provide sustaining support for a minimum of three years and a maximum of five years. It added: "While institutions that receive an award can generally expect to receive this long-term support, an initial award will only be made for one year. Funding for the first year (Phase I) will be for planning purposes; funding for the second year (Phase II) will be for development; and year three (Phase III) will be for operational purposes. In the event it appears advantageous to the government, Phase III may be extended for an additional two years." It concluded, of course, the stipulation that 75 percent of the federal funds would have to be expended in the AHEC area and that at least 25 percent of the costs of the program would have to come from nonfederal sources. It was stated that the new AHEC programs could be developed as individualized rural or urban programs or as an extension of or a precursor to a statewide AHEC network.

Answering proposals from new contractors had to be received by August 12, 1977. Contracts for the year beginning October 1, 1977, to cover planning costs in the first year were awarded, among the 25 responding institutions, to the University of Colorado for a statewide AHEC; to Howard University, on behalf of a consortium with Georgetown and George Washington universities, for an urban AHEC; to the University of Maryland for an urban/rural AHEC; and to the University of Pittsburgh for an urban AHEC.

In the course of 1978 the professional staff in the office of the national AHEC coordinator was enlarged to eight members

with noticeable improvements in the 1978 form of the RFPs for additional AHECs. Whereas in 1977 there had been one form of RFP, on June 29, 1978 there were issued three, one for an urban AHEC program (RFP No. HRA 232-7E-0881), one for a rural AHEC (RFP No. HRA 232-7E-0882), and one for a statewide AHEC (RFP No. HRA 232-7E-0883). They varied in containing a commendable description of the special features associated with the different situations to be met in each of the three types. The RFPs provided a fairly detailed sequencing of activities by which each was to be accomplished. Whereas the 1977 RFP had indicated the government's intent to provide sustaining support, subject to demonstrated success on a year-by-year basis and to the availability of appropriations by Congress, for a minimum of three years and a maximum of five years, each of the 1978 RFPs indicated that the intent of the government was to provide planning, developmental, and operational support for any of the three types of AHEC programs for up to a maximum of six years, explained in further detail as follows:

> The initial support to a successful competitive applicant will be with a 12-month contract for the purpose of planning an AHEC program. On the basis of the first year of satisfactory contract performance and subject to availability of funds, the government may exercise its prerogative to enter into a noncompetitive, follow-on contract which will be negotiated for the further development and the operation of the AHEC program.
>
> Each AHEC program must begin planning for at least one AHEC during Phase I of support, such that the center(s) will be fully operational during the third year of the AHEC program's support. Additional centers, depending on the nature of the AHEC program, may be proposed for initial planning in years 1 to 4 of the planning, development, and operation of the AHEC program. However, once any center's planning is initiated, the center must become operational within three years, and no center will receive support for more than six years.

> If multiple centers are planned under a single AHEC program, and the government agrees that one or more of the centers should be phased in (for planning, development, and operational purposes) after the initial year of support for the program, but not later than the fourth year, the program, as it relates to the individual centers, may receive federal support for up to nine years. The total length of contemplated support will depend on the number of centers proposed and when their development is to be initiated. . . .
>
> Funds will be awarded at yearly intervals to cover annual performance. Subsequent annual awards will depend on the demonstrated success of the program during its previous year's performance (whether that is the first year of planning, second year of development, third year of operation, or other contract year performance), continued legislative authority, and the availability of funds. *In general, the federal contribution will increase as the activity of each center expands through the fourth year and will be gradually phased down in the fifth and sixth years of activity. During these latter two years, an increase in the amount of cost sharing can be expected.*

Finally, the RFPs reflected more clearly the administration's understanding of the legislative mandate to establish two separate entities:

1. the medical or osteopathic school as the prime contracting entity for a university health center and initiator of a cooperative program with
2. one or more autonomous, free-standing AHECs.

Such a center "must be a public entity, a private, nonprofit entity incorporated under the laws of the state, a joint venture of such entities, or any other entity recognized under the laws of the state which has as one of its principal functions the operation of the AHEC." The RFP states specifically what it cannot be: it "can neither be a school of medicine or osteopathy, the

parent institution of such a school, nor a branch campus or other subunit of a school of medicine or osteopathy or its parent institution, or a consortium of such entities." It is the center that appoints a center director and full-time staff responsible for administering the activities of the center and that appoints an advisory board of which at least 75 percent shall be both health providers and consumers from the area served by the center. In further detail the RFP specifies that the advisory board shall be composed of at least one physician, dentist, nurse, and allied health personnel who are actively engaged in the practice of their professions in the area served by the center as well as other health-service providers or health-professions educators from the area as appropriate; and it shall be composed of consumers who are residents of the area such that they are reasonably represented with the health-service providers from the area and such that they are reflective of the population in the area served by the center; and it shall be composed of other individuals, including students. To emphasize the active role and influence on the center of this advisory board, the RFP further specifies that it must have appropriate bylaws governing its operation and must meet at least quarterly. In summation, "the purpose of the advisory board shall include advising the center director on all major policies concerning the operation of the center, the establishment of program priorities, and other activities, as desired."

By the terminal date of August 14, 1978, 17 schools of medicine or osteopathy had made offers to contract with the federal government for new AHEC programs. Of these, 5 schools received awards: the University of Cincinnati (on behalf of itself and five other medical schools and an osteopathic school in Ohio) and the University of Massachusetts (Worcester) for statewide AHECs; the University of South Dakota for a rural AHEC; and the University of Connecticut (Farmington) and the New Jersey School of Osteopathic Medicine at Camden, New Jersey, for urban AHECs.

Whatever judgment one makes of the wisdom or unwisdom of particular elements of these federal administrative interpretations or of the congressional specifications and requirements of 1976 for AHEC programs which the federal government will

assist with funds, any medical or osteopathic school now willing to enter into a new AHEC contract has clear notice of many specific rules of the road to which it will be expected to conform in its efforts to engage in decentralization and regionalization of medical and health professional education in a federally aided area health education program.

But what of the original pioneers, the 11 veterans from the 1972 awards who had been the object of transitional provisions provided by Congress in Section 802(a) of the 1976 act? For them it had authorized to be appropriated such sums as may be necessary in what would be their sixth year, and also in their seventh year ending September 30, 1979, providing they could offer assurances to the Secretary of DHEW that they would by that date have come into conformity with the requirements of the new law. The 1976 act had provided that the Secretary should by regulation establish standards and criteria for the requirements of Section 781, requirements that would, of course, apply to newly awarded AHEC contracts, but also be conformed to at least as of September 30, 1979, by those institutions that had received contracts initially under the 1971 act, if they were to receive funds in the year beginning October 1, 1978.

The RFPs for new AHECs in 1977 and more especially in 1978 reflected federal administrative thinking about the standards and criteria that should be contained in the new regulations. As drafts of the regulations were developed in 1978, there began an intense dialogue between the federal administrators and representatives of the 11 pioneering AHEC projects. It became increasingly clear that in varying degrees and for different sets of reasons many of these projects faced difficulty in bending their programs and procedures into conformity with the proposed new rules of the road, even though they contended that they had pursued with many desirable results the basic AHEC concepts and goals. The federal administrators understandably felt the need to carry out the revised congressional mandate expressed in Section 781 of the 1976 act and at the same time were sympathetic to the situation in which the original projects found themselves in having to conform to substantial new requirements. In view of this predicament, representations were made by various parties to the House and Senate who

agreed to "grandfather" the original 11 from the new requirements by an amendment to that effect attached to the Nurse Training Act. Congress passed this bill late in the 1978 session. President Carter, because of budgetary considerations, vetoed the bill too late for any further consideration by the 95th Congress.

Meanwhile the Public Health Service, DHEW (1978) published so-called "Interim-Final Regulations" for area health education programs, which were announced as effective immediately although comments were invited that, to be considered, must be received by January 26, 1979. The details of these regulations are basically consistent with the provisions of the 1976 act and with the content in particular of the three forms of RFPs issued in June 1978. The body of the regulations repeats the definition of an AHEC as an entity recognized under the law of the state in which it is located and which has as one of its principal functions the operation of the AHEC but does not contain the explicit rejection found in the RFPs to the effect that the AHEC "can neither be a school of medicine or osteopathy, the parent institution of such a school, nor a branch campus or other subunit of a school of medicine or osteopathy or its parent institution, or a consortium of such entities." However, the summary of the regulations provided by the Assistant Secretary for Health, Dr. Julius P. Richmond, in effect does so by stating expressly in paragraph 2: "In light of the separate and distinct assignments of responsibilities to schools and AHECs, as well as the legislative history of section 781, among other considerations, it is the Secretary's view that a school of medicine or osteopathy, its parent institution, or any of their subunits (e.g., branch campuses) may not serve as an AHEC."

The regulations include a statement to the effect that the 11 institutions with AHEC projects first funded in 1972 and receiving funds in fiscal years 1978 and 1979 do not have to conduct their projects in conformity with these regulations except that no payments can be made under these contracts in the fiscal year ending September 30, 1979 unless the institution provides assurances satisfactory to the Secretary that not later

than September 30, 1979, the project will be in conformity with these new regulations. In view of the presidential veto in December 1978 of the Nurse Training Act, which contained the amendment relieving the 11 original AHEC contractors of the obligation to conform to these new regulations by September 30, 1979, they are now under the obligation to assure compliance to the Secretary by that date. In early December 1978 the University of Texas Medical Branch (Galveston) reported its inability to come into compliance with the new regulations, and the federal funding of its AHEC project has been terminated. It remains to be seen if a further effort in 1979 to lift the requirements of compliance by the original AHEC projects will finally be successful.

2

AHECs—A Critique and a Personal View

AHECs—An *Educational* Intervention

As noted in Chapter 1, the AHEC concept articulated by the Carnegie Commission in 1970 was proposed as a strategy for change in the educational process to contribute to a better geographic distribution of health care providers and, accordingly, to improve the availability of health care services so that characteristically underserved rural and inner-city populations would be better served. As also noted, the report indicated that the development of AHECs would also serve the aim of contributing to better distribution among medical specialties, a goal implied by reference to the report of the Citizens' Commission on Graduate Medical Education (known as the Millis report; American Medical Association, 1967), which had emphasized the need for more primary physicians) and by reference to the need to provide a broader educational experience in secondary and primary care for medical students and residents.

To achieve better geographic and specialty distribution of health providers, then, the Commission advocated the development of *educational* interventions in health care delivery settings removed from established university health science centers. It envisioned decentralizing a portion of the clinical education of physicians and dentists from the university centers to remote

area centers and the regionalization of training programs for nursing and allied health professions.

In the congressional hearings of 1971 (Richardson, 1971a, 1971b), the need for both better geographic and specialty distribution of physicians was clearly reiterated; and AHECs as described by the Carnegie Commission were specifically referred to as a promising means toward meeting this double need. The final legislation passed by Congress in 1971 authorized grants or contracts to alleviate shortages of health personnel by training or retraining such personnel in facilities located in areas designated by the Secretary and selected to improve the distribution of health personnel by area or by specialty group. This authority was granted in a section headed "Health Manpower *Education* Initiative Awards" (emphasis added).

The Carnegie Commission was careful to make a distinction between health care education and health care delivery, emphasizing that adequate health care education, while a prerequisite to adequate health care delivery, by no means guarantees it. It further affirmed: "No matter how many health professionals are trained and no matter how adequately medical education facilities are distributed throughout the nation, Americans will not receive adequate health care unless a system is developed to deliver health care to those who need it, regardless of income, geographic location, age, or race. Unless health education efforts are coordinated with changes in the existing pattern of delivery of health care, the Commission's recommendations will not have maximum impact upon the health of Americans" (1970, p. 24).

In particular situations, then, more may be required to effect an altered distribution, geographically and by specialty, of health providers than changes in the educational process induced by AHEC programs alone. These distinctions between health care education and health care delivery are ones that representatives of the AHEC projects have felt it necessary to reiterate on a number of occasions when they were involved in discussions of proposals for, or actual evaluations of, results of their projects by outside consultants or by federal officers.

Granted, then, that interventions other than those in health education may be needed to achieve an effective distribution of health care resources to particular populations, we can, however, review the educational process as changed in accordance with the AHEC concept to see if the change in educational process is now shaping individuals as physicians or other health providers in such a way as to increase the likelihood that a higher proportion of them will show interest in and willingness to consider employment in serving neglected rural and inner-city populations. The ultimate test of the AHEC concept may be the degree to which those who finish the revised educational process actually serve previously neglected populations, taking into account the need to meet in some practice situations especially difficult social and economic circumstances which themselves require innovative solutions to organizational and financial problems in the delivery system in order to reach particular neglected populations. It may well be that the innovations in the delivery system needed to reach difficult rural and inner-city situations will be found only when more health providers have had the kind of formal educational upbringing to arouse their interest in and desire to participate in serving the populations in such areas. In any case, it is evident that educational changes as well as system changes may be needed to alleviate the conditions in particular shortage areas.

It is difficult to overemphasize, certainly in the second half of this century, the impact of formal education on the professions in general. A lifetime spent in research-oriented universities with extensive commitments to professional education as a professor (University of Illinois), as a dean of Arts and Sciences (University of Michigan), and as a president (University of Washington) has made me progressively more aware of the effects of formal education on the socializing, machining, and programming of students into standardized repetitive products as practitioners of particular professions or vocations. In this age of superspecialization, material technology for the production of an incredible array of special products has been accompanied by social technology embodied in standardized educational processes for the production of specialists in an ever-increasing

number of crafts. A modern university contains a great collection of professional subcultures, with the various segments of the faculty largely engaged in replicating their own kind. In coming to understand these subcultures and their impacts on younger initiates, a president needs to develop the skills of an anthropologist accustomed to learning the behavioral characteristics and attitudes of one tribe after another.

Individual students obviously do vary one from another, by genetic inheritance, family upbringing, and a host of other influences, but the patterns of formal education do develop great similarities among the initiates to particular educational programs. Lawyers are taught to learn the language of the law, to think like lawyers, and to talk like lawyers. Physicians are taught to learn the language of medicine, to think like physicians, to talk like physicians, and even to look like physicians in their uniforms of white coats with the stethoscope as a badge of office.

Individuals in the course of induction into many other professional groups develop their own characteristic uniformities as well, but no group in contemporary society exceeds the health professions in their differentiation into recognizable members of guilds through the process of their formal education. Since World War II, initiates to the profession of medicine have passed through a long, competitive, rigidly structured, stressful hazing: gaining admission to the "right" college; choosing the "right" courses; getting the "right" GPAs; obtaining the required MCAT scores; surviving the prescribed curriculum of medical school; passing the National Medical Board examinations; obtaining the "right" internships and residencies; and finally passing the specialty boards and emerging forever after as "doctors." Certainly, no other assembly line among formal educational processes exceeds that of medicine in length and rigidity. Whatever the virtues of this assembly line, and there are many, it was generally evident by 1970 that the products coming off the end of the line were distributing themselves in practice in such a way as to leave neglected areas of medical service for rural and inner-city populations and to provide inadequate attention to primary care needs of patients. The models coming off the end of the

assembly line were simply not designed to meet these significant health care needs of the American population.

The Carnegie Commission's 1970 report in essence recommended alterations in the educational processes embodied in the assembly line intended to alter characteristics of the products to make them more adapted to serving the needs of rural and inner-city populations and to providing primary care. Because of the length of the process required to complete the training for a practicing physician, evaluation of the revised educational program in earlier years is perforce restricted substantially to judgments as to the success of the revisions in increasing the likelihood that more of the models emerging from the assembly line will be interested in entering the practice of medicine to care for neglected populations and neglected aspects of health care. At a later date, when the alterations in the educational process have been in effect long enough to produce a new generation of models, it will be possible to conduct assessments of the actual distribution patterns of physicians as a basis for further evaluation of the AHEC concept. For the present at least, it is instructive to make evaluative judgments about the effects of changes in the educational processes on the attitudes of participants therein, as they have been occurring in the original 11 AHECs.

If I have so far referred especially to physicians, it is because they play a dominant role in the delivery of health care and are the products of the longest educational program. They are of course attended by an increasing array of specialists as health care providers, the pattern of whose education is also affected by the application of the AHEC concept.

The burden of these remarks, then, is simply this: The formative effect of professional education upon health care providers, and particularly upon prospective physicians, is sufficiently heavy that how they are taught will very largely condition how they will want to practice. The Carnegie Commission's recognition, then, that the changes in the educational process it proposed in 1970 are necessary to effect changes in the interests of physicians as to practice, both geographically and by specialty,

seems like a valid insight. The award of actual contracts to the 11 projects for proposed AHEC programs offers a means to test in practice its actual validity.

General Conclusions

Site visits to the 11 university health centers and to some of the "remote" sites with which the universities have had relations in connection with their AHEC projects carried me from Maine to California and from North Dakota to the southern tip of Texas. In these visits over the length and breadth of the United States, I had conversations with many participants in AHEC endeavors, and I have read a mass of documentation about each program. From all these sources, I have come away, first and foremost, with a greatly heightened sense of the multicultural character of these United States, of the great diversity among the states, and even within single states. Ours is a continental nation, held together by some shared ideas, more often as goals or common aspirations rather than as achievements, and by some respect for rules of procedure and law as prudent safeguards for individuals in an orderly society. However, the configuration of the landscape, the physical geography of the land, make for great diversity among regions. The immigrant streams of different ethnic groups still leave distinctive marks upon us, including linguistic, cultural, and religious diversity. Economic, social, educational, and class variations still abound. Our institutions are of various origins, often of mixed public and private parentage, and, whatever their similarities, they also have their distinctive features and history: state and local governments, schools, colleges and universities, health care institutions, professional associations. All these have an impact upon how an AHEC program can be developed.

The existence, then, of significant regional differences within the United States has been heavily underscored for me by my experiences with the 11 AHEC projects. There is still a place in the United States for general concepts and general strategies for change toward new goals, but these must be applied

through tactics sensitively adjusted to local or regional differences by persons who will bear the burden of living closely with the actual changes desired. However desirable and broadly applicable the strategic goal of the AHEC concept itself may be, the federal government can easily preclude the possibility of ultimate nationwide achievement of this goal by prescribing tactics that may have been successfully applied in some regions but are not adaptable to the peculiarities of other regions.

The circumstances encountered in each of the AHEC projects in fact are so different that one can not approach a review of these programs as though one were comparing a number of entrants competing on the same race course. However, one can accept the proposition that the AHEC concept is a strategy for changes in the educational process to produce health care providers more interested in attempting to serve more neglected segments of the population (in rural and inner-city areas or in particular need of primary health care, or both). One can then observe the 11 AHEC projects to evaluate to what extent the changes suggested by the AHEC concept (essentially decentralization and regionalization of health provider education) have actually been implemented, and whether the attitudes associated with these changes (as reflected in their participants) appear to be more favorable toward the possibility that more of those in health careers training will wish to serve these more neglected patient populations.

I will make judgments about particular circumstances that seem to deter the achievement of useful change and thus constitute problems to be overcome. I will also make judgments about particular procedures developed in a project that appear to have been helpful in overcoming deterrents and then suggest them for consideration in other situations in which they may be helpful.

My review of the efforts of the 11 original AHECs (despite the differences among them) to apply the AHEC concept to their educational processes leads unquestionably to the conclusion that beneficial results can flow therefrom in the attitudes of present and future health care providers toward practice in cities and in rural areas that are not close to existing university

health science centers. Because none of these 11 projects, at least from 1972 to 1978, has had a significant focus on reaching neglected inner-city populations, actual experience with efforts to develop educational interventions in inner-city areas is still largely lacking.

There are, of course, for different reasons, variations in the degree of success achieved from 1972 to 1978 of the individual contracting educational institutions in decentralizing aspects of the education of health providers and in developing in their target areas regional coordination of health provider education through the development of AHECs.

The AHEC projects affecting North Carolina, South Carolina, California, and Illinois are the most fully developed programs. In each instance they developed opportunities for medical students to receive clinical instruction in communities remote from the university center. They each increased opportunities for residents to receive training in primary care in the remote areas. They each worked to overcome the sense of isolation of practitioners in remote areas by developing active programs of continuing medical education in those areas. In North Carolina, South Carolina, and Illinois, plans had already been developed to send medical students for clinical instruction to off-campus sites prior to the award of the AHEC contracts, and, in North Carolina and Illinois, the operational phase had partially been reached. In California the university health centers had not reached this stage, but interest in participation in medical education of community institutions in the Fresno area had already led to the creation of a sponsoring area organization—the San Joaquin Valley Health Consortium—competent to assume responsibilities quickly as principal subcontractor for many kinds of health education programs in the area.

In the case of the University of Illinois, the university established branch facilities under its own ownership, either through purchase of land and new construction (as in Peoria) or through purchase of land and remodeling an existing facility (as in Rockford), to provide local administrative offices and laboratory space for core faculty, libraries, auditoriums, classrooms, seminar rooms, and student services. Facilities for a new

family practice center were also included in the Rockford facility. Thus, there is a visible branch, as a separate entity, of the university located in these two cities separate from the facilities of the community hospitals, which are also used by the students there. In the case of Urbana-Champaign facilities were provided on the existing university campus. (The situation at Peoria and Rockford differs in form from that in North Carolina, South Carolina, and California, in which federal, state, or other funds have been used to remodel or add facilities to the property of community hospitals to provide the new spaces needed for expanded educational functions.) The university's decentralization from their existing medical campus in Chicago for three years of clinical instruction for three separate groups of students (a fourth group larger than the others remained in Chicago) antedated the Carnegie Commission's 1970 AHEC concept and its language concerning centers. Hence Illinois prefers to call its plan an "Area Health Education System" (AHES). However, the actions taken to implement the Illinois plan are consistent in substance with the AHEC concept, if not with the language and form. The medical students assigned for instruction to Rockford, Peoria, and Urbana-Champaign are seeing a different mix of patients cared for by physicians who are more practice-oriented, and they are exposed to an environment and lifestyle different from that of Chicago.

In all four states, an interest in increasing the number of more skilled providers in nursing and allied health care has led to assistance from the university center in developing regional resources for the training, and upgrading of the training, in nursing and allied health, as well as participation by the university nursing and allied health schools in providing outreach experiences in the area for their own graduates. In North Carolina and South Carolina, dental and, especially, pharmacy students were also given well-organized opportunities to elect outreach experiences off-campus; in California opportunities for dental and pharmacy students were more restricted, and in Illinois they were lacking.

All four states lend themselves to regional development because they contain a number of natural regional centers, and

their projects evolved as multiarea centers, quickly becoming statewide in North Carolina with nine areas and in South Carolina with seven areas. In the case of California, the project evolved from one to three areas in the sixth year of the contract; at the end of the seventh year, a scheme is being developed for a statewide AHEC plan in association with numerous health science schools. In the case of Illinois, the AHEC project was awarded to the University of Illinois to whom responsibility has been assigned by state authority for the northern half of Illinois, which has been divided into four areas.

All four projects have stimulated an increased interest on the part of present and future health providers in the remote areas, and there has been an actual increase in the target areas in health providers and an increase in the levels of training attained by nurses and allied health workers.

In all four states, perpetuation of many of the outreach and regional educational programs initiated or developed with the help of the AHEC project is probable with access to private, institutional, local, and state funds as a result of commitment to these programs by residents of the states, who have been persuaded of their value.

In these four states, the AHEC concept has been applied with a considerable measure of success in changing the processes of education of health providers, with evidence already that improvements in distribution of health providers to underserved areas are appearing.

The case of North Dakota is *sui generis* and a successful effort within its special limits. In North Dakota the push toward decentralization of undergraduate medical education at the restricted level of clinical instruction within the state (the fourth year only) has reached the ultimate in the assignment of 10 seniors each to the four regional centers in the state, with the result that there really is no university health science center in the state. Each of these four centers has added one or more primary care residency programs and greatly expanded opportunities for continuing medical education. The practice of medicine within the state has been made more attractive, and physicians are already being recruited. As evidence of state support for

this program the legislature has already assumed the major share of the costs of this program. The area of interest of the North Dakota AHEC project was widened after the first five years to include coordination among nursing education programs throughout the state, an increase in opportunities for graduate nursing education, and the provision of opportunities for students in three allied health programs at the University of North Dakota in Grand Forks to rotate through clinical sites elsewhere in the state. Thus, although opportunities for clinical education in North Dakota are inherently limited, they have been expanded through the ingenious efforts of the AHEC project and have improved the availability within the state of useful programs in health education and, indeed, of needed health providers.

At the University of West Virginia the AHEC project was viewed primarily as a way for the medical school to attain a predetermined goal more quickly, namely, a branch facility to accommodate an increased number of third- and fourth-year medical students at Charleston in affiliation with the Charleston Area Medical Center. As in the case of Illinois, an educational building was constructed at Charleston with a combination of state and philanthropic funds to house university administrative and faculty offices, lecture rooms, laboratories, library, television production facilities, and student services; in this case the university building is adjacent to the Memorial Hospital of the Charleston Area Medical Center, to which it is linked by a bridge. Heavy reliance is placed on part-time teaching by staff physicians from the Charleston Area Medical Center for senior electives and for residents, while the core full-time faculty assigned to Charleston carries a heavier responsibility for the third-year clerkships. Unlike the case of the University of Illinois, which funded the costs of undergraduate medical education from state funds, West Virginia University used AHEC funds to launch its planned extension of undergraduate medical teaching to Charleston through its division there and through the subcontract with the Charleston Area Medical Center.

The AHEC project brought additional medical manpower to Charleston, which helped improve the size, quality, and attractiveness of the existing residency programs of the Charleston

Area Medical Center and which enabled the introduction of two new residency programs in family practice and in psychiatry. With help from the AHEC contract, the university augmented the number of West Virginia students undergoing training in undergraduate and graduate medicine within their own state, improving prospects for their entering practice within the state. The presence of these educational programs and of more continuing education made Charleston itself a more attractive place for the practice of medicine. The costs of this medical education program in Charleston are being increasingly underwritten by the state.

The West Virginia use of the AHEC concept, however, is restricted, especially so in view of the rural nature of much of the state and the magnitude of its needs for health services. As yet, there is little opportunity for medical students and residents to be exposed to clinical experience in hospitals and clinics in smaller communities, and little effort has been made from Morgantown or Charleston to develop regional relationships with outlying small hospitals. In the sixth and seventh years, dental and pharmacy students from Morgantown began clinical rotations in Charleston, and a nursing baccalaureate completion program was developed in Charleston. The people of West Virginia could certainly benefit from a more vigorous, coordinated effort to build outreach educational opportunities for communities in the state consonant with a broader commitment by the university to the AHEC concept.

The Tufts University School of Medicine faced some distinctive complexities in its effort to conduct an AHEC program in Maine. As a private institution located in a different state, it lacked experience in, or any claims upon, the political process within Maine. It faced a state whose independent-minded population does not welcome advice from outsiders. That same population is marked by intense local feelings, making agreement among communities within the state difficult of achievement even in the face of a need to overcome real deficiencies in the availability of health care providers, especially in the less populated, rural areas of inland Maine. Despite the friendly contact between Tufts and Maine caused by the presence, particularly

among older Maine physicians, of a number of Tufts alumni and by the participation of Tufts medical faculty and residents in continuing medical education encouraged by the Bingham Associates Fund, the situation in Maine required substantial deference by the Tufts administration to the wishes of people in Maine as expressed through, and limited by the concerns of, those local institutions that could be related to physician education. These turned out to be Maine Medical Center in Portland and, secondarily, Eastern Maine Medical Center in Bangor and the University of Maine.

Tufts, through its AHEC contract, supported enlargement of the faculty in premedical sciences at the University of Maine, so that more of its students became better qualified as applicants to medical schools. It increased the number of medical students receiving clinical instruction in Maine, principally by an affiliation with Maine Medical Center in Portland, which received an annual group of 16 students from Tufts for their third-year clerkships, and by offering its fourth-year students electives in Portland. It helped establish a family practice residency program in Portland and strengthened and enlarged the existing residency programs at Maine Medical Center by staff additions and additional learning resources. At Eastern Maine Medical Center, it added a strong residency program in family practice. The increased numbers involved in graduate medical education in Maine had the effect of recruiting additional physicians to Maine, the family practice residents in particular sharing a tendency to settle in smaller communities in the rural areas, which were also made more attractive by the increase in continuing education offered by Tufts at more locations in Maine.

The Tufts School of Dental Medicine established six-week dental externships for senior students at institutional sites in Maine; one-half to one-quarter of these students have actually entered practice in Maine. Very little was attempted by the AHEC project in Maine with reference to allied health and nursing.

Insular attitudes within Maine forced Tufts to work with separate institutions in Maine. The AHEC Advisory Committee, composed mostly of Maine physicians, showed no leadership in

trying to promote coordination in educational matters among the health care institutions in the state. Tufts, as a private institution from another state, had no relationship to state government in Maine and found itself in a weak position to develop statewide consideration of health professional education opportunities and programs in the state. Tufts did help the University of Maine personnel develop greater interest in health education problems. Tufts did bring benefits to Maine through its AHEC efforts, but further progress will turn on initiatives from within Maine itself, especially so since Maine Medical Center has indicated its intention to withdraw from its commitment to offer third-year clerkships to the Tufts students. This case certainly demonstrates that AHEC programs depend as much on the responsiveness and wisdom of community leadership in the "remote" areas as on the commitment and wisdom of university health science centers.

The case of the University of Minnesota AHEC illustrates difficulties in finding leadership away from the university health sciences center within the Twin Cities that was willing to work for a regional structure to sponsor health provider educational experiences. With the collapse at the end of the third year of the subcontract with the Central Minnesota Area Health Education Consortium centered in St. Cloud and the failure to arouse the interest of the physician group in Duluth in a center based on Duluth, efforts to develop a regional framework within Minnesota ceased. It must be granted that, under the best of circumstances, the demographic characteristics of Minnesota present serious problems in any attempts to produce viable regional structures.

However, the difficulties in Minnesota were further compounded by the lack of interest in decentralizing educational activity to locations outside the Twin Cities on the part of the leadership in the clinical departments of the School of Medicine. The lack of any clear policy about, or commitment to, outreach efforts by the medical school in general and the lack of overall coordination among the several schools of the health sciences resulted in a "scatteration" of outreach activities, many of which were of little significance and affected few students. The

Department of Family and Community Medicine was an exception; its well-organized Rural Physician Associate Program for third-year medical students encouraged their interest in small communities and brought a kind of continuing education to the preceptor sites. This department also encouraged residents in its university-based residency program in family practice to take one-month rotations in rural communities; a substantial number of these residents show evidence of choosing to practice in small communities.

The nursing school added a number of programs to facilitate the upward mobility of nurses and to increase their skills to meet particular needs. Allied health students were encouraged to take rotations outside the Twin Cities. The School of Dentistry evolved a growing interest in providing rotations for its students with dental preceptors in private offices in rural areas, and the pharmacy school developed an interest in providing rural rotations for its students.

Continuing medical education had earlier been confined largely to programs conducted in the Twin Cities on the initiative of individual departments. With AHEC assistance the Office of Continuing Medical Education undertook the coordination and extension of programs to outreach locations. Continuing education for nurses was greatly expanded and made more available at outstate locations.

The impact of the AHEC program in Minnesota has certainly been less than that of the programs previously described, but the appointment of an outreach committee for the School of Medicine and of an outreach committee for all the health sciences under the vice-president may lead to a more vigorous and coordinated effort in the future.

I believe that it was unfortunate that the University of Missouri-Kansas City was awarded an AHEC contract in 1972, with the project direction lodged in those officers who bore the burden of establishing an innovative medical school in Kansas City that would not graduate its first students until several years later. The University of North Dakota was also a new school at the clinical level when it was awarded a contract, but its plan called for the ultimate in decentralization of clinical medical education to four locations in the state with no university health

center as such. The plan of the University of Missouri-Kansas City, on the contrary, called for a six-year combined premedical and medical program based on the metropolitan area of Kansas City in a new university health sciences center. The engrossing task was the creation of this school in Kansas City, and little time or effort was left to the leadership for the development of outreach in the AHEC area (the 38 counties of western Missouri), which include the county in which Kansas City itself is located.

In only a minimal sense could the Missouri program be regarded as an AHEC. Discussions with representatives of hospitals and physician staffs in St. Joseph, Springfield, and Joplin have not led to the establishment of regional sponsorship in any of these areas of opportunities for medical students from Kansas City to have clerkships or electives in the hospitals. No new residency programs based on areas outside Kansas City have been developed, although a substantial internal medicine residency program based on a consortium of hospitals in Kansas City has been created. The only decentralization of medical education to occur has been the development of electives under physician preceptors outside the Kansas City area. There are no "centers" away from Kansas City for medical education.

An active program to recruit rural and minority students from western Missouri for health careers has led to an appreciable number of students enrolled in the health sciences in Kansas City, including the medical school, but they have only minimal exposure to clinical instruction outside Kansas City. Small numbers of dental students in their fourth year have had one or two weeks of experience under dental preceptors outside Kansas City, but a high proportion of pharmacy students have longer externships outside Kansas City. A very substantial increase in continuing medical education programs offered outside Kansas City was achieved, but without a coordinated organization.

Bits and pieces of an AHEC program thus exist, but no clearly articulated policy and coordinated program for outreach educational activity or for regional organization were developed at Kansas City.

The performance expectations associated with the congressional rewrite in 1976 of the enabling legislation for AHEC contracts forced, in the sixth and seventh years, a review and

discussion of the AHEC concept and its possibilities for application in a statewide system by the university administration and the health sciences on both the Kansas City and Columbus campuses. These have not yet led to any action.

Before commenting on the AHEC projects of the University of Texas Medical Branch and the University of New Mexico, a further word of explanation is required. References to AHECs in several places in the Carnegie Commission report of 1970 make it evident that the Commission clearly had in mind as an important element in an AHEC program the offering, in a community hospital remote from the university health center, of opportunities for clinical education to M.D. and D.D.S. candidates. It states specifically that the centers' education programs should include:

- Residency programs
- Clinical instruction for M.D. candidates and D.D.S. candidates who would come from the university health science center on a rotating basis
- Clinical experience for students in allied health programs
- Continuing education programs for health manpower in the area, conducted in cooperation with local professional associations

The language of the 1971 act concerning "Health Manpower Education Initiative Awards," on whose authority the AHEC contracts were based, refers to "health personnel," but the RFP issued by the BHME clearly places physician education in the front position, for it describes an AHEC as having its nucleus in a hospital or consortium of hospitals located at some distance from "a school of medicine or osteopathy or a university health science center, which may also be referred to as a 'medical center.'" The revision of the enabling law for AHECs by Congress in 1976, and the DHEW regulations thereon of November 27, 1978, place medicine more clearly in a preeminent position by specifying that the contract shall be with a school of medicine or osteopathy. The act further stressed this preeminence by including, for the medical schools only, a mandatory minimum

requirement, namely, no less than 10 percent of their undergraduate clinical instruction should be in an AHEC, and they should provide for a medical residency training program in family medicine or general internal medicine, which should include at least six enrollees in first-year positions. They were also to provide for active participation of at least two other schools or programs (including dentistry, if a dental school were affiliated with the contracting school of medicine or osteopathy). Given the predominant role of the physician as "captain of the team" for health care delivery, however, it is not surprising that there should be this emphasis on the inclusion of medical education within an AHEC program.

In many circumstances, this insistence upon the inclusion of a substantial segment of undergraduate and graduate medical education in an AHEC program may be feasible and desirable. However, the accidents of history of the award of contracts to the 11 original contracting institutions in 1972 illustrate two cases that cause one to question the wisdom of making this requirement inflexible. If the federal government indeed wishes to provide aid for the improvement of health care in certain sections of the nation underserved by health personnel and in which, in earlier stages at least, the inclusion of a substantial component of medical education in an AHEC program may be quite impossible, other kinds of educational intervention could be initiated in the area with the help of a university health science center that would provide means of improving the availability of needed health care personnel and of ameliorating the adverse health care condition of people in the area. The cases that raise this issue are the AHEC projects of the University of Texas Medical Branch at Galveston and the University of New Mexico.

The University of Texas Medical Branch at Galveston placed the principal thrust of its AHEC project on the vastly underserved area of South Texas, an area which has a tradition of isolation from the northern parts of the state (including Galveston) and is itself separated by its geography into three areas isolated one from the other. Corpus Christi, with 47 percent Mexican-American population, is underserved medically, but

Laredo with 88 percent Mexican-American population and the lower Rio Grande Valley with 78 percent are grossly underserved medically. In addition to the linguistic and cultural barriers, there is widespread poverty; these are some of the most impoverished counties in the United States. Little contact among physicians and other health providers existed among the three areas in South Texas, and in the lower Rio Grande Valley the physicians were further divided into two groups (one in McAllen and one in Harlingen) because of their rival aspirations to become the site of a medical school. To add to the difficulties, Galveston is 230 to 380 miles distant from the three areas, which are poorly served by air transportation, and the medical branch had little prior history of cooperative relations with the area.

The only health provider institution in South Texas interested in cooperation with the medical branch was the Driscoll Foundation Children's Hospital in Corpus Christi, whose faltering pediatric residency program was reinvigorated by weekly contact with faculty visitors from Galveston, so that in time a number of former residents established their practices in South Texas. Except for the efforts of the McAllen General Hospital in the lower Rio Grande Valley to develop a family practice residency program in association with the School of Medicine of the University of Texas in San Antonio, no other hospital in South Texas showed an interest on the part of its physicians in providing clinical instruction, either for residents or for medical students.

The medical branch found willing subcontractors only in public educational institutions—the Laredo Junior College and Pan American University in Edinburg in the lower valley. Both hoped to be able to develop programs in nursing and allied health fields at various levels below the baccalaureate level for their students. They were able to do so with AHEC help from the medical branch, as also were Texas State Technical Institute in Harlingen, and Texas Southmost College in Brownsville. Opportunities to go beyond the two-year level were opened up in some programs so that students could advance toward the baccalaureate, in part within the area and in part by transferring to

Galveston or San Antonio. The net effect was a substantial increase in opportunities for residents of South Texas to have better access to careers in nursing and allied health, either for direct entry into health provider roles in hospitals or clinics in South Texas or for return to South Texas after completion of programs elsewhere in Texas.

Hospitals in South Texas were able to improve the educational qualification of their staffs in nursing and in allied health, thanks to the dramatic increase in the number of such persons trained in South Texas who have chosen to remain in the area. To a substantial extent the educational institutions in South Texas, which had been helped originally with funds as well as professional advice through the AHEC program to initiate nursing and allied health programs, were able to continue these programs on the basis of their regular funding sources.

Through the interdisciplinary program of health assessment of the student population of the Hidalgo School District in the lower valley, students in various health professional fields from the medical branch had their interest in health problems in rural South Texas aroused, with possible consequences for the future. Dental students from the schools in Houston and San Antonio were able to have preceptorship electives in a dental indigent clinic in Laredo. Pharmacy students from the School of Pharmacy in Austin were helped to have elective experiences at Mercy Hospital in Laredo, McAllen General Hospital, Valley Baptist Medical Center in Harlingen, and at six community hospitals in McAllen and Harlingen. Some of these students have entered practice in South Texas.

The AHEC program endeavored to bring continuing medical education to South Texas, which had to be directed toward the subregions, more interest being earlier expressed by the physicians in Laredo and by the pediatricians in Corpus Christi than by other groups. In nursing continuing education it was possible to transcend the regionalism and divisiveness present among the physicians with joint planning by nurse program associates based in Laredo, Edinburg, and Corpus Christi. As the numbers in particular fields increased, it was possible also to offer

continuing education for allied health specialists, and pharmacy continuing education programs were developed for Laredo and McAllen.

South Texas became more attractive to physicians and dentists between 1970 and 1977, but there is still much to be done to overcome the deficits remaining in all health professional roles in South Texas. Despite the great difficulties of the situation, the AHEC program was making progress in recruiting the interest of the South Texas population in health careers and the ability of the local educational institutions to educate local people for entry into health careers at the lower and, to a small extent, baccalaureate level, particularly in nursing and allied health. The sensitive and realistic management of the AHEC program that achieved these results has led some hospitals in the region to look more favorably on participation in clinical instruction for nurses and allied health students. More time would be required to improve the interest in, and capacity of, the medical staffs of hospitals and clinics in the area for instruction of medical students or residents.

The regulations resulting from the requirements set in the 1976 enabling law for AHEC, particularly as to the amount of medical undergraduate and graduate education, imposed upon the authorities of the medical branch the necessity of making assurances of compliance by September 30, 1979, which they felt they could not meet, and so stated, with the result that their AHEC contract was terminated in November 1978. Some of the educational activities in nursing and allied health instituted through the leadership and assistance of the medical branch with its AHEC contract will continue; other activities have ceased, at least for the present. Unfortunately, no other leadership on behalf of still-underserved South Texas is in sight to carry the task forward. There was forward movement in the development of health providers in South Texas under the leadership at the medical branch as the result of the availability of the AHEC contract from 1972 to 1978, but the federal timetable as now set is clearly not adjustable to a feasible pace of constructive developments in South Texas. It has also foreclosed for now

a course of action that might have led to more opportunities for medical instruction in South Texas and have further improved the delivery system in that area.

The University of New Mexico School of Medicine, which had expanded from a two-year to a four-year school in 1966, was still engaged in getting its own university center on a firmer footing in 1972 when it proposed as alternative AHEC sites an area in northern New Mexico centering on Los Alamos or an area in the south centered on Las Cruces or an area in the northwest centering on Gallup (with a large population of native Americans). In July 1972 federal officers, influenced by discussions of serious health problems among the Navajo and by the proposal for an American Indian Medical School (which almost a decade later remains largely inoperative) suggested that the university focus its attention on the third site—the Gallup area. In March 1972 the Navajo Tribal Council had approved the concept of a medical school and authorized the development plan, and in June 1972 it created the Navajo Health Authority (NHA) under a separate board appointed by it, the members including, in addition to Navajo, some Anglo health professionals. This board was charged with developing health manpower training programs appropriate to support the development of the American Indian Medical School and to meet the needs of the American Indian in staffing their health services. To help it in its first year of operation to establish an office and staff, the board received an allocation of $100,000 from the Navajo Tribal Council and $50,000 from the Indian Health Center.

Given the interest expressed by the federal officers, the university entered into discussion with the NHA, which quickly led to a joint effort as proposed in the AHEC contract, in which over 90 percent of the funds from the AHEC contract went to the NHA in a subcontract for activities administered directly by it, but not including its efforts on behalf of the creation of an American Indian Medical School.

The AHEC project director recognized from the start that the Gallup area posed special circumstances that precluded the possibility that the university could decentralize the education

of its students in any significant degree to the area, especially medical students or residents; the struggling Indian Health Service hospitals and clinics could offer educational experience for only an occasional individual. He saw that progress could be made only by deferring to the interests of the Navajo community and obtaining its support for programs that would develop Navajo participation in health provider roles and thus contribute to improvement of the health services available to the Navajo. This conclusion limited the role of the university health science center as the prime contractor to one of making suggestions, responding to questions, and facilitating activities undertaken by the NHA. Consonant with the approach of placing heavy responsibility for the actual conduct of programs on the NHA, the university allocated the majority of the AHEC funds to it, and this strategy worked well.

With accidents the leading cause of death and disability on the Navajo Reservation, an emergency medical system covering the entire area was initiated with AHEC help (though subsequently funded from other sources); it was manned through a training program for emergency medical technicians developed for Navajo. Similarly, epidemiological studies were required for the training of local personnel for the streptococcal disease control program and for the rheumatic fever registry.

In pursuit of the AHEC goal to educate health care personnel for shortage areas, heavy emphasis was placed, especially at the start of the program, on the recruitment of Indian students for health careers, the provision of scholarship support for training outside the area, the maintenance of a counseling relationship to provide cultural support, and the offering of summer work experience back in the AHEC area. Many scholarship students who have completed their training have returned to the area to serve Indian people.

Since efforts to interest residents in internal medicine and orthopedics in practice through rotations in the Gallup Indian Medical Center had little impact, another approach was tried. In view of the obvious needs in the area for primary physicians, a family practice residency program was initiated at Shiprock, New Mexico, in 1976. Its ambulatory clinic has been welcomed

by the Indians in the area and has also been used by residents for rotations, and by medical students, physician assistants, and nurse practitioners for preceptorships. It is not yet accredited, largely due to the deficiencies in the adjacent Indian Health Service Hospital.

In nursing, however, the AHEC program has been more successful in developing training programs within the area at the Navajo Community College in a ladder arrangement for nurses' aides, licensed practical nurses, and associate degree nurses. A second program at the Gallup branch of the University of New Mexico began graduating associate degree nurses in 1978.

The Navajo Community College was also helped by the AHEC contract to strengthen and expand its programs for a variety of allied health roles of particular relevance to needs of the area based on courses up to the AD level, and more of its students are now able to enter baccalaureate level programs elsewhere.

Although the Navajo make use of Indian Health Service clinics and hospitals as well as other Western-type medical services in the area, a majority remain loyal to native healing traditions dispensed by their medicine men. So that Western physicians will better understand the working of these traditions among the Navajo, particularly the psychological and social consequences, the AHEC program contributed to the preservation of and development of knowledge about these traditions, including knowledge of medicinal plants, ceremonial procedures, and the organization of medicine men.

Through these training programs and various research efforts on the health status of the Navajo, there is now much more knowledge about health problems among the Navajo. This knowledge is now shared with Navajo health providers, tribal leaders, and a broader segment of the Navajo people. Since 1973-1974 an annual Navajo Nation Health Symposium has provided an opportunity for wider community education and continuing education seminars for health providers. Quarterly supplements to the *Navajo Times*, a TV series on health, and other uses of the media have increased community awareness of health problems. The University of Arizona, as well as the University of

New Mexico, has stepped up continuing medical education visits to the area.

The NHA, with AHEC help, has developed a media center at Shiprock, which now services eight other sites; although their collections are small, interlibrary loans are available.

In addition to the benefits derived by the Indians from the specific educational programs conducted under the AHEC program, the partnership of the NHA with the University of New Mexico has helped the NHA to become articulate spokesmen for the health needs of the Navajo people and effective administrators and advocates of actual programs. More Navajo are knowledgeable about health, and more Navajo are engaged in health careers, still primarily in nursing and allied health but with a few emerging from the longer educational curricula as pharmacists, dentists, and physicians. The AHEC years have brightened the prospects for more health care providers among the Navajo and for improved health care of the Navajo.

The University of New Mexico project, however, has not developed in the Navajo area—its AHEC target area—any appreciable amount of clinical instruction for its, or other, medical students or residents, and could not be in compliance with the new federal AHEC requirements on medical education for continuation of its contract after the seventh year. The conferees between the House and Senate in their report on the Health Professions Educational Assistance Act of 1976 recognized that the provisions of the new authority for AHEC programs were such that many existing AHECs were not in compliance with them, but they expressed the view that those centers had been given sufficient time under the provisions of the conference report to meet the new requirements (compliance by September 30, 1979). They further stated: "It may be, however, that in the case of the AHEC program located in New Mexico, the principal thrust of the program—the training of Indian people in health professions—can not be continued under the new provisions. If this becomes the case, then it is the intent of the conferees that the Secretary afford special consideration of the funding of the program under other provisions of law" (U.S. Congress, 1976b, p. 130).

Congress thus recognized the unusual circumstances in the area chosen by the University of New Mexico and its inability to comply with the new AHEC requirements. Congress, of course, has had long exposure to dealing with problems associated with the Indian populations in the United States, and its members are accustomed to having to give special consideration to them and their circumstances, as they chose to do in this deserving instance. But there are other areas of the country whose particular history presents special conditions similarly deserving of special consideration, such as South Texas. Congress chose to grant a dispensation from the rigidity of its own law in the case of an imaginative, constructive, and beneficial health professional education program affecting the health care of the Navajo area. However, Congress did not grant, conceivably did not even consider at the same level, a dispensation in the case of the South Texas project, which was also remarkable for developing an imaginative, constructive, and beneficial program in health professional education affecting the poorly served health care needs of this area. In adopting in 1976 specific requirements for AHECs it would support, Congress did not provide for the exercise of discretion in special cases by the Secretary. In the absence of any declaration of congressional intent in 1976 other than for the project of the University of New Mexico and in the absence of final action to waive the 1976 requirements for the original 11 AHEC contracts, the constructive and remedial efforts of the University of Texas Medical Branch at Galveston in South Texas were suspended by the termination of its AHEC contract in November 1978. In addition, a promising start in a most unusual and difficult area, which might in time have led to more educational opportunities for physicians, also was ended with no further leadership from university health centers in sight.

The 11 AHEC contracts awarded in 1972 enabled these university health science centers and the cooperating health provider and health education institutions to pioneer experiences in decentralizing and regionalizing aspects of health provider education in the AHECs. Since their attempts to modify the educational process to encourage the production of more health

providers interested in providing primary care in underserved rural areas offer promise of constructive results, I have endeavored to gather from my review of their experiences a harvest of comments, which I hope will be of use to all who wish to explore or encourage the further application of the AHEC concept to the health educational processes in any area of the United States; these comments are presented in the following sections.

University Health Science Centers

The matter of commitment. The first question to be asked about any university health science center considering or being considered for an AHEC program is the degree of commitment to the undertaking of outreach educational activity by its academic administrators and faculties. An AHEC program inevitably poses new burdens and responsibilities upon these persons. For some decades university health science centers have been subject to centripetal forces that have built up a mass of buildings, facilities, staffs, patients, and students in a visible city within the city—indeed a center (the word itself is significant). The facilities within this city of health, to the fullest extent possible, have been largely constructed to require minimum movement among faculty offices, libraries, classrooms, laboratories. and patient beds and clinics so that they can meet their responsibilities for patient care, teaching, and research. Implicit in the AHEC concept, however, is a flow away from the university health science center to develop clinical educational opportunities in more remote locations, with the faculties and professional groups there collaborating with the faculties of the university centers under the supervision of the university centers. This outflow of educational activity requires time for travel, the inconvenience of travel, making of new acquaintances, and accepting new educational coworkers in health provider environments different in degree as well as kind from the university center, and, of course, new costs. Thus, an active outreach program of part of the educational process inevitably means substantial alterations in accustomed ways, patterns of movement, human relationships, and delegation of responsibilities. A critical mass of university health

science faculties, then, have to perceive reasons to justify their commitment to an outreach program as a desirable goal.

Motives of varying kinds can lead to commitment to outreach of educational activities on the part of a university health science center. One of the most obvious motives is the need to find more space for clinical instruction, particularly in medicine, occasioned by a decision to expand the size of a medical school to accommodate larger student enrollment. As the costs of building clinical facilities skyrocket, it becomes increasingly difficult to obtain the large funds required to expand, and, therefore, existing community facilities, even if at some distance, become more attractive. Also, in the face of a proposal to construct a new medical school in an area where existing community hospital facilities could be used for instruction, an established medical school may consider it in its interest to forestall the creation of a new school by expanding its own enrollment and using these same community clinical facilities.

The cost of newly constructed clinical facilities may not be the only factor that leads to a decision in favor of outreach. Even if facilities can be enlarged, the patterns of patient referral to the clinical facilities of the existing university health science center may not be such as to provide a larger inflow of patients; schools vary greatly in the size of their catchment area for patients and in the degree to which they can reasonably expect to increase patient inflow to their facilities. The use of existing facilities elsewhere and, thus, access to more patients for a portion of clinical instruction of their students may be necessary.

There may also be a problem in maintaining the patient inflow necessary to support the educational program for the already existing enrollment at the university center. University health science centers are such impressive monuments to the eye and have passed through such a glamorous period of successful development that it may be difficult for those with a foreshortened view of history to appreciate the vulnerability of human institutions and the possibility for them to sow the seeds of their own destruction with their success. The immediacy of the threat may vary from one school to another, but it would

be salutary for medical schools to recognize that university hospitals and closely affiliated centers may be an endangered species. In recent decades, their facilities have been primarily used for the care of tertiary care patients, referred from the surrounding area and from more distant communities, whose treatment necessitated attention from specialist and subspecialist faculty physicians (often also engaged in medical research). These same academic physicians have introduced a growing crowd of residents and fellows to the mysteries of specialty and subspecialty medicine—the old vipers breeding young vipers in their own image. Only a small proportion of the younger contingent thus trained can be employed in university health centers, and the great majority of them have entered practice in other communities.

Until recently university centers have largely concentrated their efforts on training specialists and subspecialists to the exclusion of developing replacements for general practitioners and more general kinds of specialists who in years past found it desirable and reasonable to refer patients with complex and difficult problems to the university hospitals. The new breed of physicians trained as superspecialists have now largely replaced the older generation; this new breed now encourages more community hospitals to acquire the advanced medical technology and to develop the sophisticated teams for special care that were previously found in university hospitals, and they see less and less reason to refer their patients with difficult problems to the university centers. In essence, then, the university centers have concentrated on producing physicians of a type who, more and more, regard themselves as competitors for the care of the kinds of patients for whom the university centers were built.

Some administrators and faculty in university centers are acutely aware of the implications in this situation for adverse change, but many are still operating on the basis of "what is, will be." It is, however, time for those associated with university health centers to stop, look, and listen and to consider alternative courses of action to retain or obtain access to the

patients the centers need for instruction and research. The answers are still far from obvious, but the problem deserves far more attention in all medical schools.

In the 1970s medical faculties have been pressured to look beyond their own or affiliated hospitals and to seek affiliations with other hospitals in the immediate area or farther afield. In part the pressure, as already noted, came from larger classes and the need to find places for additional students to have access to patients, but it also came from those members of the medical faculty who took seriously the criticism voiced in *The Graduate Education of Physicians* (American Medical Association, 1967) and *Meeting the Challenge of Family Practice* (American Medical Association, 1966). Both these AMA reports charged that university hospitals and university-affiliated hospitals were producing an excessive proportion of superspecialists, and were not producing the primary care physicians needed to serve the needs of patients suffering from chronic or "ordinary" ailments. Faculty members influenced by this criticism saw the need to expose students at the clinical level and to expose residents to more diverse patient care situations that could be obtained by including community hospitals, clinics, and physician offices as instructional sites, where primary and secondary care patients were more readily seen, especially in the communities at some distance from university centers. They saw in these outreach activities a means of improving the array of learning experiences needed to develop diversified types of physicians to deal with the diversified needs of patients.

Still another motive leading to an interest in outreach activity may be the realization of faculty members that the delivery of health care in communities elsewhere, which have often fared less well than those close to the university centers, could be improved through cooperative relationships with the centers; this cooperation would mean greater access to continuing education for all the health professions and improved training programs based on clinical training in provider institutions and local educational institutions aided by advice and assistance from

the university center. The Regional Medical Programs frequently served to bring attention to opportunities for such cooperation between a university center and community facilities elsewhere.

Interest within the university health science center in outreach service can also be stimulated by political pressure or threats of pressure, particularly on state university centers—pressures aroused by complaints by underserved communities to their state legislatures and government. A positive version of this situation can be the realization by sensitive and astute faculty that a favorable reaction to a university center and its funding requests may be induced by a positive, aggressive effort of the center itself to contribute, by various forms of educational assistance, to meeting obvious community health care needs removed from the immediate university environment. The majority of the original 11 AHEC projects have, indeed, experienced a happy response to their outreach efforts in the form of the assumption of funding for their outreach activities by state and local government and institutional and private sources at levels well above those obtained from the federal government.

University health science centers in the past 25 years have come to rely so heavily for their fiscal salvation on the federal government that it has been easy for them to unintentionally neglect opportunities for service beyond the immediate reach of the university environs, as well as opportunities to tap new sources of financial support engendered by appreciation for needed services. With prospects for federal funding now less secure and the tendency for federal funds to come with more and more controls attached, prudence on both scores suggests that the centers should pay more attention to opportunities to serve needs in their own area.

Public university health science centers have felt in the recent past more pressure to serve residents of their own states, certainly with reference to admissions of students; places for out-of-state residents have tended to become more restricted. Private university centers are less exposed to such pressure for student admissions, but, if they accept state subsidies for state residents, the "national" character of their student bodies

may be more restricted. However national they may be in admissions, they are also dependent for the conduct of their educational programs on an adequate flow of patients for clinical instruction of their students, and the patients are likely to be more local in origin. As the public institutions extend their contacts to additional communities that may become patient catchment areas for them (either for referrals to the university center or for use in decentralized education), private institutions may also see the need to cultivate service relationships with additional communities.

Establishing an AHEC program in a university health center. The effective establishment of an AHEC program represents such a departure from the accustomed behavior patterns of administration, faculties, and students within a university health science center that a conscious commitment to the desirability and importance of developing outreach educational activity is required. The federal government, in the language of the 1976 act authorizing AHEC contracts, limits eligibility as contractors to schools of medicine or schools of osteopathy, although this does not preclude parent institutions from acting on behalf of their schools. Given the predominant influence of physicians within the health care delivery system, I see no reason to quarrel with this position nor is there reason to quarrel with the 1976 statutory provision that the school provide for active participation in such programs of individuals associated with the administration of the school and of each of the departments (or specialty if the school has no such departments) of internal medicine, pediatrics, obstetrics and gynecology, surgery, psychiatry, and family medicine.

Given the tendency for clinical departments to be strong feudalities within a medical school and the need for their positive endorsement and participation in an effective AHEC program, it is advisable to have a medical AHEC committee that involves the dean and the department chairmen directly in policy discussions on the school's activities in the AHEC program. Because of the necessary preoccupation of such persons with other matters as well, some schools have also found it useful to have

a committee of faculty members (specifically designated by the dean and department chairmen) as the working medical school AHEC committee to deal with routine matters and to share experiences (referring more important questions of policy to the main committee).

Because interaction between physicians and other health professionals is required in any health care delivery situation and because the improvement in the delivery of health care in any area served by an AHEC is dependent on the availability of adequately trained professionals of various types in the right type, distribution, and number, AHEC programs should look beyond physician education alone to include efforts on behalf of other health providers. The 1976 act provided that AHEC contracts should include participation by at least two other schools or programs of health professions (including schools of dentistry). This is a reasonable provision. The experience of the original AHECs in numerous instances demonstrates the beneficial effect of efforts to improve the level of training and availability of nurses and allied health providers through opportunities to decentralize the education of the university's students in these fields and opportunities to coordinate and expand programs for students in nursing and allied health attending local institutions in the area. To a lesser degree, dental, pharmacy, and public health institutions have enlarged the range and type of clinical experiences their students encounter by decentralizing their instruction. In addition, all these health professional schools have contributed by various means to the increased availability of continuing education for professionals in the areas they serve.

The 1978 Request for Proposal issued by DHEW requires as a condition for a contract that there will be an AHEC program advisory committee composed of senior representatives of each of the schools and programs of health professions that are actively participating in the AHEC program, whose members will include individuals with training and experience in at least the following fields: medicine (or osteopathy), dentistry, nursing, and allied health; and in addition at least one representative of each AHEC established by the university. It would

be reasonable for any institution endeavoring to develop an AHEC program to have such an advisory committee to assess its activities and to meet the new federal requirement that this committee meet with the AHEC project director at least quarterly to review progress and problems and to plan for further development of the AHEC program.

There are clear indications among the original projects that representatives of a health sciences school can obtain information useful in the conduct of their own program from an exchange of experiences with representatives from other schools in such a context. Representatives of different health science schools have, indeed, found that it is easier to develop a mutual awareness and collaborative relationships in less crowded AHECs than in large, impacted university centers. Collaboration learned at the remote site can fuel a desire to work together at the home site.

A successful AHEC program requires steady communication within a medical school and between a school and other health professional schools that befits the pursuit of an important policy goal. But it is likely also to require commitment from and communications with the university administration above the level of the health science schools as additional funding for an AHEC program is needed. The initial Request for Proposals in 1972 indicated the intent of the federal government to sustain AHECs for up to five years on incrementally funded contracts provided for each year. In fact, for the original 11 contracting university medical centers funding continued into a sixth year at about the same level as in the fifth year, with a lower level in the seventh year (except for the termination of the contract with the University of Texas Branch at Galveston), to be presumably followed by further reductions from the seventh to eighth year and from the eighth to the ninth year, with no federal funding thereafter.

The 1971 legislation included no cost-sharing requirement, but the 1972 RFPs, to which the original 11 AHEC projects responded, indicated that the contracting universities were expected to share in the costs, but with no specific amounts stipulated. The 1976 legislation included the stipulation that

the contractors had to provide a minimum of 25 percent of the funds for the program in any year. The 1978 RFPs required an even more rapid phasing out of federal assistance: a program planned for a single AHEC area may have a first year for planning, a second year for development, a third and fourth year for operations with expanding federal support, to be followed by a fifth and sixth (final) year of declining federal support, with the expectation that funding by the contracting institution will be augmented in these later years. An institution planning to establish one or more additional AHECs after the first year could receive a similar pattern of federal support for each additional center started in the second, third, or fourth year of the contract, thus opening the possibility that a university center might have a contract extending over nine years, but no single AHEC can receive federal assistance beyond six years. The net effect of these stipulations is to make it clear that any institution receiving an AHEC contract is presumed to be developing a long-range program focussed on one or more AHEC areas (for any one of which it can receive partial federal funding for only six years) to explore other sources of funding, such as state, county or local governments, other educational institutions in the area engaged in health provider education, health provider institutions, and private sources. As the medical school and its confreres in health education turn toward these sources, they cannot avoid entering a fiscal and political arena in which the principal officers of the university inevitably are increasingly involved. Wisdom suggests that these principal officers should become familiar with the AHEC program, its problems and its possibilities, and become participants in its major strategy. AHEC cannot be just another federal grant program perceived only, at least by some within the university, as another program of "departmental" significance. If an AHEC program is of any consequence in an institution, it must be a major educational venture whose policies, procedures, and means of support demand attention at the level of presidents, deans of health science schools, department chairmen, and many faculty members.

At the House and Senate hearings in 1975 and 1976 on the AHEC program, the committees of both houses expressed their interest in placing specific performance requirements in the

new legislation. These varied somewhat between House and Senate versions, but in general required residency training in primary care specialties, training and retraining of health personnel located in AHEC areas, and undergraduate medical remote site training. The Senate committee expressed more openly a concern about the contracting institutions by stating with reference to its proposed bill: "A number of requirements are provided *to ensure the full commitment of the medical school or osteopathic school to the success of the AHEC program*" (U.S. Congress, 1976a, p. 243; emphasis added). Any university health science center committed to the conduct of an AHEC-type program (as a recipient or not of a federal AHEC contract) would be well-advised to maintain an active AHEC committee structure within the medical school and among participating schools as a means of planning activities, supervising actual operations, addressing problems, evaluating consequences, and informing the faculty and the general administration about the AHEC program. The existence of such an active committee structure and process would also help to reveal to outsiders the depth of the institution's commitment to the AHEC goals.

Effective commitment to the AHEC concept inevitably entails considerable changes in behavior and attitudes on the part of a substantial number of persons within the university center and thus requires the use of a complex committee structure for program planning and guidance in operation. It also requires recognition of the need for an AHEC program director who commands attention and prestige within the university health science center, both as a consequence of the authority granted the office and as a consequence of personal attributes. The director must have access to the important authority figures—deans, chairmen, faculty members, and, on occasion, the vice-president for health and even the president—and he must have their backing. He must also have some familiarity with leading figures in the remote area health education center or centers and command their respect. The health science professions are organized in hierarchies and tend to be status- and credential-conscious; a director will have easier access in both the university and the area centers if he has an M.D. degree, although some unusually competent individuals without higher degrees in the

health sciences have been effective directors. In any case, the director needs to be an educational administrator competent to deal primarily with program development, even though he also has overall responsibility for fiscal and administrative matters. Apart from fiscal and administrative support personnel, he will need staff assistance for program development as well, given the diversity of types of educational programs called for by the AHEC concept. An AHEC program is not likely to flourish if the director is perceived not as a health professional, but as a bureaucratic administrator; nor is it likely to flourish if a vice-president or dean himself, along with all his other responsibilities, assumes those of AHEC program director, aided only by administrative assistants. The office and responsibility of AHEC program director must be perceived as an important assignment for an academic administrator respected as a colleague by deans of the schools and department chairmen, and charged with responsibility for assisting them in fulfilling an accepted goal. The AHEC program director needs to be seen as energetic, imaginative, responsive, cooperative, proficient, and decisive. His is not an easy assignment! It is an important one if the institution is fully committed to developing a strong AHEC program.

Area Health Education Centers

Regional diversity. Visits to the 11 AHECs scattered from coast to coast and from the Canadian to the Mexican border force upon one a realization of the great diversities among the parts of the United States and of the hazards in a "national" view, which obscures local variation as a "real" aspect of American life and which must be reckoned with in an effort to apply the AHEC concept.

Even the pattern of settlement on the land, the demography, makes for differences that affect the development of organizational structures for AHEC activities. Embedded in the AHEC concept is the notion of an area or region that can be served in various ways from a center—an area center. In many parts of the country, demography lends itself readily to this concept as one city becomes the dominant center for an outlying

region that depends upon the center for economic, professional, health, social, educational, cultural, and transportation services. Much of North Carolina offers good illustrations of this situation: Charlotte, Wilmington, Asheville, Raleigh, Fayetteville, and Greensboro (with neighboring Winston-Salem and High Point) are each sizable urban centers serving a less populous area with a built-in possibility of serving health needs as well and thus are natural centers for an AHEC. But there are sections of North Carolina without obvious population centers at convenient range. Three "centers," those for Area L AHEC, the Eastern AHEC, and the Northwest AHEC, have had to be developed by linking hospitals in different communities into a consortium.

As has already been described, Minnesota's demography does not lend itself so well to regional organization. The Twin Cities area is a large metropolis with a surrounding service area. Duluth, St. Cloud, and Rochester are urban centers and potential centers for regional AHECs, but for various reasons the University of Minnesota has not been able to turn them into AHEC centers. Large parts of the state, however, are sprinkled with small towns and have no regional structures around centers to be the making of obvious AHECs. The demography poses difficult problems of organization for AHECs in these parts of the country.

The development of AHECs can also be hindered or slowed by cultural diversity. A large part of the country is populated by people who now reflect "middle American" culture, who may have become as American as apple pie, but this is by no means true of all parts of the country, where cultural and linguistic differences create enclaves of populations. Among the 11 original AHECs one thinks of the Mexican-American population in South Texas and the Native Americans on and near the Navajo Reservation.

Regional attitudes and antipathies, local loyalties and jealousy, are still significant influences on AHEC development. "Natural" areas for an AHEC may still be far from unified in their desires and attitudes. Institutional loyalties are common and often attended by rivalries with other institutions. Because

hospitals have a history of being founded as charitable, nonprofit institutions by private initiative, often with religious associations, they are influenced by traditions that still divide middle America and maintain attitudes of rivalry and even hostility among their sponsors and staffs, sometimes making interinstitutional collaboration difficult or impossible.

Professional differences. Apart from the general effects of cultural, linguistic, class, local, or religious differences that can affect the development of an AHEC program in a given area, there are professional differences in the attitudes of practicing physicians in potential area centers that substantially affect the possibilities for the development of an AHEC program.

There are communities in which the physicians are willing and even eager to have residency programs in a variety of medical specialties and, as the need for more primary physicians has become evident, to see family practice and general internal medicine residencies. Residents are often perceived as useful and helpful adjuncts to the supervising physician's practice, in addition to whatever psychological and professional benefits the latter may draw from acceptance of the graduate teaching role. This aspect may then be a plus in favor of collaboration by community physicians in an AHEC program with a university health science center in residency programs, and even to the acceptance of medical undergraduates for instruction by local practitioners who find pleasure in part-time teaching roles, even though students are not useful as helpers in actual practice. The students do become acquainted with the local physicians and their residency programs, and from these undergraduates good, willing applicants for local residency programs may be recruited. But it is also generally perceived that many residents will wish to practice in or near the area of their residency. Thus, they become business competitors of their teachers, and this aspect of the residency program may be perceived by local physicians as a minus. The final decision is likely to turn upon the assessment of the market by the practicing group. If the critical mass of physicians in the area perceive the catchment area for patients to be sufficiently large that they feel secure in their practices

and do not fear too much competition from newcomers in their own specialties, then they are likely to favor the introduction or increase of residents in specialty training in the area. Even in communities that already have active residency programs in medical specialties sponsored by local hospitals, the physician group may welcome an AHEC association with a university because of additional benefits seen for their own residency programs, and be willing to lend support to a new residency program in family practice initiated as a consequence of the AHEC affiliation and its attendant emphasis on primary care residencies.

There are also communities which have, for whatever reason, not been so attractive in recent years to an inflow of younger physicians and have an aging, declining population of general physicians and a small group of specialists; in these communities, the more recent arrivals may be eager to receive some reinforcements and even to consider starting up residency programs. They may welcome an AHEC affiliation with a university health science center as a means of improving their own professional environment and of strengthening their ability to initiate a residency program in a specialty as well as in primary fields.

Another situation is that of a community that has attracted the newer crop of physicians who have found opportunities to practice the specialty for which they were trained, aided in this respect by referrals from the shrinking number of general practitioners in the immediate and surrounding areas. If these specialists are fearful that additional specialists will create undue competition, they are likely to see the negatives triumphing over the positives in proposals to add new programs in their specialties. They may, however, see advantages in the establishment of a family practice residency in their community with the help of a university affiliation and an AHEC relationship. Some of them may even be willing to contribute part-time service to teaching the family practice residents some aspects of their specialty, not to make them specialists, but for their general background in medicine; as phrased by a surgeon, not to teach them surgery, but to teach them something about pre- and post-operative care, and, as phrased by an obstetrician, to teach them about obstetrical practice in an office, but not in a hospital.

An additional motivation for specialty-oriented physicians to teach family practice residents is the expectation that these residents will practice either in the community or in surrounding small towns as "docs for the boondocks," and, if they remember their teachers kindly, they will probably refer patients in need of special care to them.

Then there are communities that are prospective centers for an AHEC program in which the dominant attitude of the practicing physicians is sufficiently negative as to make an affiliation agreement for an AHEC program with a university health science center difficult or even impossible. There may not be enough practicing physicians interested in participating in teaching or accepting the presence of residents or medical students in the hospitals within which they function. They may be affected by an isolationist attitude within the general community toward all outsiders or by a specific regional antipathy toward the community in which the university health science center is located. They may be dominated by a general anti-gown sentiment felt by individuals who, for whatever reasons, harbor a resentment against their medical alma mater or toward the particular university health science center involved in a potential AHEC relationship.

Commitment to the AHEC concept is required of personnel in a community being considered as a center for an AHEC, and the level of commitment attained by the practicing physicians of the community has much to do with determining the feasibility of an actual AHEC program in their community. Congress has evidenced some concern about the commitment of medical schools to an AHEC program. As stated by the Senate committee report (1976a), it has endeavored to ensure the full commitment of the medical schools by providing a number of requirements for the recipients of AHEC contracts. The level of commitment by the university health science center to an AHEC program is certainly an important determinant of the success of the program. It is no less true that what can be achieved in an AHEC program is also very much affected by the kind of commitment to the aims of the program revealed by the various AHECs.

It is clear that in the multi-AHEC programs the AHEC project directors have had to be sensitive to differences among various centers and that the actual program content from one AHEC area to another has varied in accordance with local possibilities. Congress has already gone too far in writing prescriptions for AHEC programs. It should not go further in interfering with the possibility of local adjustments that may make progress possible in many potential centers for AHEC programs.

The possible content of an AHEC program can be affected from one area to another by variations in interprofessional relationships that raise issues, the resolution of which may go well beyond the powers of any single university health science center to achieve. An instance of this is in the area of what is now a prescription in the 1976 legislation concerning AHEC contracts —the responsibilities of the contracting medical school to encourage the use of nurse practitioners and physicians' assistants and to recruit individuals for training in these professions. There appears to be a growing conflict between the medical profession and the nursing profession over the definition of the role of the nurse practitioner, which can easily move to the political arena with efforts to amend the practice acts of the states. There are variations among the states: some AHEC programs have been able to mount nurse practitioner training programs, whose trainees or graduates have met no resistance from the medical and nursing professions and who are employed by physicians, but in other states the conflict between the two professions is intense enough to make it difficult or imprudent for the university health science center to mount nurse practitioner training programs, either in the AHECs or on their own campus.

The problem may be further intensified by differences within the nursing profession as to the levels at which nurses should be trained to be nurse practitioners. Earlier programs tended to be offered at levels below the baccalaureate, for example, for R.N.'s with two years of professional training. These nurses obtained a certificate as a nurse practitioner based on an additional year of training in didactic work and in a preceptorship under the tutelage of a practicing physician. Some representatives of organized nursing view this type of program as a

form of indentured service and argue for its termination in favor of a postbaccalaureate certificate or preferably a master's degree program, with the idea that greater prestige will be given to the nurse practitioner role and that the nurse so trained will have greater mobility.

Nurses trained at this higher level might indeed have more status, but they may become less available to assist physicians in the care of underserved patients, particularly in small towns. There are nurses living in such towns who might be able to leave their communities for short periods and who could be trained to help the overworked physician in the area care for his patients, but who could not leave for the longer period required to work up to the master's level. Or, if they did leave for that period, the chances of their return to the small town from which they came would be diminished. It seems that the interests of the patients, especially in smaller communities, would be better served by the opportunity to offer nurse practitioner training at two or more levels.

Until these conflicts between the professions of medicine and nursing are resolved and until there is a resolution of the conflict within the profession of nursing over the levels at which nurse practitioners should be trained, it will be difficult for educational institutions to determine the types of training programs to be offered and to conduct them, and for health care to be made available to segments of the population in localities less accessible to direct treatment by physicians.

In the field of dentistry there are also variations from state to state in the kinds of educational programs that may be conducted in an AHEC as determined by the dental practice acts. Dental students are, of course, allowed to perform dental operations under faculty supervision in the clinics of the dental school, but in some states they may not be permitted to do so in the private offices of practicing dentists. In other states, they may be able to do so if the dentist supervising them in his own office accepts responsibility for their work on patients or if he is given a faculty appointment. In general dental students have actual clinical experience working on patients in public clinics,

which are usually maintained for particular categories of patients, such as indigents, the retarded, and mental patients in public institutions. Through the inclusion of opportunities for dental students to see and work in the clinical environment with these types of patients, they have become more aware of the dental needs of the underserved segments of the population, even though in dental practice acts there may be limitations on the opportunities open to dental students to gain practical experience in treating private patients in dentists' offices in a variety of environments.

Relationships among educational institutions. In the course of their efforts to implement the AHEC concept, the contracting university health science centers have developed new kinds of relationships with other educational institutions located in the AHEC area. Medical education as such has not in general been the occasion for these new contacts, because medical education is offered by relatively few institutions and in many areas no other medical school will be involved. The decentralization of a portion of clinical education from the university center to the area normally leads to contacts with hospitals, clinics, and physicians' offices, but not with educational institutions in the area. Relations with other medical schools may come about, however, in developing multi-AHECs within a state such as those in North Carolina, where the medical school of the University of North Carolina, Chapel Hill, as prime contractor, has subcontracted with the Bowman Gray, Duke, and East Carolina medical schools, each of the latter having responsibility in turn for one AHEC area while the Chapel Hill school retains direct relationships to six AHEC areas. In Missouri collaboration between the University of Missouri medical schools in Columbia and Kansas City in developing a statewide AHEC system is being discussed. In California the University of California, San Francisco, has recently received funds from the state and federal government for planning a statewide multi-AHEC program based upon participation by a number of medical as well as other health science schools. In the first five years of the University of California,

San Francisco, project, the medical school of the University of California, Los Angeles, was also involved as a participant in activities within the central San Joaquin Valley AHEC area, but it withdrew in the sixth year. Within this same area, the family practice residency program at Merced had been initiated with an affiliation with the medical school of the University of California, Davis, but it also received assistance from the AHEC program conducted by the University of California, San Francisco.

However, activities in the fields of nursing and allied health have led to most of the increased contacts between the contracting university health science centers and educational institutions, resulting in regional coordination and the stimulation of new and expanded programs in these fields. Technical institutes, community colleges, or private colleges may sponsor one-year or two-year certificate, or A.D. or R.N. programs. Hospitals may also offer such programs, although the tendency is for the hospital schools to pass the sponsorship for certificates or associate degrees along to two-year institutions that provide the academic instruction, while the hospitals continue to serve as the sites for clinical instruction. Four-year institutions, public and private, may also offer baccalaureate degrees in nursing and certain allied health fields, and more of them are initiating master's and even doctor's programs. University health science centers, therefore, are finding themselves in a situation where their own nursing and allied health schools can play a helpful role aiding educational institutions in strengthening their existing programs, in conducting needs assessments as a basis for decisions to enlarge or extend existing programs, and in initiating new types of programs to meet the discovered needs. In some cases, as an interim procedure, an area institution not yet equipped to offer a complete program at the graduate level may be able to participate in a joint program, offering part of a master's degree program while the university health science center completes the degree program, either by moving its faculty members to the area or moving the students to the university center. In some cases, generally at the baccalaureate or master's level, the university health science center may, in addition, itself offer a nursing or allied health program, a clinical portion of which will be provided within the area.

Apart from assistance to individual institutions, university health science centers have in some cases been catalysts in developing coordination of their own and the area institutions' programs in nursing and allied health, achieving a regional organization for both fields through committees or interinstitutional consortiums. These in time acquire greater competence in needs assessment and interinstitutional planning, especially for the articulation of ladder programs, which ease the difficulties that so often have impeded the movement of ambitious individuals from lower to higher levels of proficiency in nursing and allied health roles.

There can be problems in achieving such collaboration and coordination among institutions in the area and between the area institutions and the university health science center. In some cases the university center has had to initiate programs that it believed were much needed within the area and that might have been sponsored by local institutions, were it not for the latter's indifference or active hostility to any form of collaboration with the university center. In general, however, with due allowance for the time necessary to cultivate new relationships with the educational institutions in the area, the university health science centers that placed emphasis on nursing and allied health have made progress in collaborating with and developing coordination of the nursing and allied health programs in the AHEC areas.

Faculty status in AHECs. Inherent in the notion of sending students from the health science schools of the university for part of their instruction by health professionals in the AHEC, or in the notion of granting university degrees to students much or possibly all of whose instruction will have been provided in the AHEC area, is the problem of recognition by the relevant schools of the university of those who do the teaching, whether part or full-time, with faculty appointments and academic titles. In recent decades the faculties of the health science schools of most universities have become heavily involved in research, and the size of the faculties has grown in relation to the number of students in order to accommodate time for faculty research in addition to their teaching obligations and their care of patients

needed both for research and teaching. The university centers have acquired additional space in which to house the elaborate equipment needed for research and the large supporting special staff. The commitment to research inevitably is expensive and has a substantial impact upon the environment of the medical and other health professional schools, including the criteria used to evaluate persons for academic appointments and the determination of academic titles and ranks. These characteristically now include a heavy emphasis on the individual's involvement in and proficiency for research. Most community hospitals and their attending staffs are not funded, equipped, or staffed for a commitment to research comparable to that usually found at university centers, although they may be excellent in the care of their patients and in their capacity for clinical teaching.

The university health science centers with experience in AHEC programs have generally recognized that the criteria for appointments to the faculty functioning at AHEC centers will differ in some degree from those used for faculty at the university center, primarily in less emphasis on research experience for AHEC faculty.

One of the recurrent notes I found struck in conversation with community physicians who had undertaken teaching duties in addition to their patient care responsibilities was the pleasure they derived from their teaching experience. I heard the thought expressed repeatedly that it was one thing to do it, another thing to explain to a student or resident how to do it and why; the latter challenge forced one to think twice about what one was doing and why. Teaching forced one to be a student again, to seek to learn still more about the science and art of medicine, thus increasing one's sense of competence both as a teacher and as a practitioner. Similar reactions were also reported by practitioners of other health professional roles who undertook teaching responsibilities.

Continuing education programs when made more available to practicing communities away from university health science centers also play an important supportive role in encouraging practitioners not only to feel more up-to-date and therefore more secure in their practicing role, but to take an interest in

teaching students and residents. In time this may also extend to encouraging practitioners with some special interest and competence to share their knowledge and skill with their community colleagues. There are instances of a progression from an early stage in which a community depends on visitors from a distance for such continuing education as it receives, generally from a university health science center; at a later stage, when the community physicians have become accustomed to attending continuing education programs, one or another member of the local practicing group is perceived as an expert in some aspect to the point where he too may be called upon to address his fellows in his area of expertise, along with outside visitors who appear for continuing education presentations. A still richer program in continuing education may be developed for interested learners through the formation, with help from AHEC staff, of a consortium for hospital staffs located in a number of neighboring communities, with the result that the sense of professional isolation that so often afflicts practitioners in rural areas may be overcome. It is interesting to note that, when well-organized continuing education programs responding to the felt needs of community professionals have been made available through AHEC planning, organizing, and financing, instances develop in which by one expedient or another (including user charges) local support for the costs of continuing education can be developed as a result of local appreciation for the services rendered by continuing education.

Through increased exposure to more available continuing education not only are some practitioners made more willing to accept the challenge of serving as preceptors and teachers of students and residents, but also at the same time the faculty from the university health science centers, as visitors to the area for continuing education, become better acquainted with the local physicians and find among them interested individuals to whom they feel they can send their students or residents, with confidence that the latter will have a valuable learning experience.

While not all practitioners are interested in, or suited for, undertaking teaching responsibilities, the AHEC experience

shows that practitioners with talent for teaching can be found in communities remote from university health science centers, where students can be exposed to aspects of practice and living environments generally different from what they experience in university health science centers. Once the commitment has been made to offer or to require experience by students in the different environment of remote community hospitals, clinics, or offices, the finding of teachers among practitioners in the communities and the matter of titles and criteria for appointment to the faculty have not been major stumbling blocks to affiliation and cooperation between the faculty at the university center and the professionals in the AHEC areas who provide the teaching there.

Most of the AHEC projects, in endeavoring to decentralize part of the educational process by developing instruction of health professionals in remote AHEC areas, have also recognized the need to help develop in the AHEC areas the support for instruction embodied in learning resources, books, journals, and audiovisual learning materials. Such materials are also an important adjunct to efforts toward making continuing education available to health providers in the area. The result has been in some cases the establishment of learning resource networks. With the help of university librarians and audiovisual specialists AHEC staff have enabled small hospitals in the AHEC areas to develop a core collection of books, journals, and tapes, and to train a staff member to maintain and service the collection. The small library can then draw by interlibrary loan from a larger hospital library in the area. It in turn can draw upon the university health science library, which in turn is linked to the regional library and to the National Library of Medicine.

As a result of the building of such a network of library resources, in some AHEC areas the scholarly minded health professional now has access, similar to that at a university health science center, to a substantial body of learning resources, whether his interest in a particular subject is aroused by a teaching contact with a student, by a continuing education presentation, or by a health problem encountered in a particular patient.

It seems likely that the resulting improved access in AHEC areas to books, journals, and audiovisual learning resources will lead both to better education of health professionals and to better care of patients in the area.

AHEC centers. The Carnegie Commission report of 1970 stated that "the nucleus of an area health education center would be a hospital, usually a community hospital, but perhaps in some cases a Veterans Administration hospital." The RFPs issued by DHEW in June 1972 expanded on this by stating that "an AHEC has as its nucleus a public or nonprofit hospital, usually a community hospital, or a consortium of hospitals." In practice the original 11 AHECs, confronting the realities of different areas, ended up with more diverse mechanisms for supervising educational activities within their AHEC areas. In a number of cases the nucleus was a single hospital whose corporate board was the subcontractor. In other cases a consortium was formed among two or more hospitals, the board of the consortium containing trustees, administrators, and medical staff representatives of the hospitals and sometimes of other elements in the community. There might be three nuclei, as in Maine: hospital boards from two different communities (Maine Medical Center in Portland and Eastern Maine Medical Center in Bangor) and the University of Maine. Or there might be as in central Texas a nucleus in the Scott and White Clinic Hospital at Temple; and in South Texas nuclei in the Driscoll Foundation Children's Hospital at Corpus Christi and in two educational institutions (the Laredo Junior College at Laredo and the Pan American University at Edinburg). Or the nucleus might be a preexisting incorporated board representative of area health provider and health education institutions, professional associations, and laymen, as in the Central San Joaquin Valley Health Consortium in California. Or it might be a preexisting board of tribal representatives and professional health educators, as in the Navajo Health Authority. In one case, that of western Missouri, there was no nucleus developed in the area apart from the university health science center itself. In two cases, those of Illinois and West Virginia, branches of the

university were established in the AHEC area as a facility to which a corps of full-time faculty were assigned, and subcontracts were written with local hospital boards and institutions in the areas.

In practice the 11 original AHECs adjusted to their particular local situation by diverse patterns of structure of their subcontract relationships to the AHEC areas. In many AHEC areas reliance upon a principal subcontract with a hospital or a consortium of hospitals proved feasible and productive of beneficial results, as in North Carolina, South Carolina, and North Dakota. The San Joaquin Valley AHEC relied upon a well-organized community health consortium. Progress was certainly made, even in the case of West Virginia, with its branch in Charleston in close association with the Charleston Area Health Center (a hospital) and in the case of the University of Illinois, with its branches in similar association with hospitals and educational institutions in Rockford and Peoria. Progress was made in Maine, despite the fact that separate interests within Maine made it desirable not to push for one nucleus, but to relate separately to the area through subcontracts with two hospitals and the University of Maine. For different reasons, neither a hospital nor a consortium of hospitals was feasible in two of the three parts of South Texas and in the Navajo area, but reliance in the first case on leadership provided by a two-year college, a four-year college, and a children's hospital, and reliance in the second case on leadership provided by the Navajo Health Authority led to beneficial developments in health professional education and to increasing the supply and competence of some types of health providers for badly underserved populations. In only 2 of the 11 programs was there a failure to develop some kind of regional base within the AHEC area as its nucleus or nuclei. The University of Minnesota started with a center in central Minnesota based on the Saint Cloud Hospital, which was abandoned by the fourth year, along with the efforts to develop a regional structure. The University of Missouri, Kansas City, did not develop a stable relationship with any institution or institutions as a base for activities outside the Kansas City area.

More recent changes in the conditions for federal assistance of AHEC projects would, had they been in effect in 1972, have precluded not only Minnesota and Missouri from having contracts, but also Illinois, West Virginia, Tufts/Maine, Texas, and New Mexico/Navajo. The revision of the law authorizing AHECs passed by Congress in 1976 provides that an AHEC program shall be a cooperative program between one or more medical or osteopathic schools and one or more "nonprofit private or public AHECs." While the law specifically defines the functions of the center, it does not further define the organization of the center, providing only that the Secretary of DHEW shall by regulation establish standards and criteria. The Secretary did so on November 27, 1978 (U.S. DHEW, 1978, p. 55242), stating under supplementary information:

> Under section 781 (b) of the act, an AHEC program is a cooperative program of one or more medical or osteopathic schools and one or more nonprofit private or public AHECs. The act sets forth separate statutory requirements for the performance of functions by each school of medicine or school of osteopathy participating in the program and by each AHEC participating in the program. . . . In light of the separate and distinct assignments of responsibilities to schools and AHECs, as well as the legislative history of section 781, among other considerations, it is the Secretary's view that a school of medicine or osteopathy, its parent institution, or any of their subunits (e.g., branch campuses) may not serve as an AHEC. Furthermore, the regulations provide that each center must be a legal entity in the state in which it is located. One of the principal functions of the legal entity must be the operation of the center.

DHEW expressly defined an AHEC as follows: " 'Area health education center' or 'center' means a public or nonprofit private entity which has a cooperative arrangement with one or more

schools of medicine or osteopathy for the planning, development, and operation of an AHEC program. A center must be an entity which is recognized under the laws of the state in which it is located and which has as one of its principal functions the operation of the AHEC" (U.S. DHEW, 1978, p. 55244).

Under these provisions a medical school wishing to develop an AHEC program in a given area remote from its own center must work in the area through a single legal entity within the area, one of whose principal functions is the operation of the center, which, in turn, has responsibility within the area to provide for or conduct all the educational activities that make up the AHEC program. This entity may be a hospital board or a consortium representative of hospitals and of other cooperating institutions in the area, but cannot be a branch of the medical school. The funds from the medical center's AHEC contract with the federal government intended to support health professional education efforts in the area must flow by subcontract to the legal entity recognized as the center in the area, which can, in turn, subcontract with other entities providing services desired by the center and the ultimate contractor—the medical school. This requires cooperation from both the medical school and the center.

In general it may be desirable to have a single organization, structured from whatever elements within the region defined as an AHEC area will have the capacity to provide effective leadership in guiding regional developments in health professional education in cooperation with the university health science center. Such an organization might be a hospital that has achieved a dominant role in the area or a consortium of hospitals that are willing to join in a common venture and to share responsibilities as agreed upon. Experience in participation in educational activities that are found to be beneficial might lead to an increased willingness by institutions and individuals with their distinctive histories to collaborate either under the leadership of a hospital or within a consortium. The diverse experiences of the original pioneering AHECs reveal, however, that there are areas in the United States in need of improvements in the availability of

health care, but in which historical legacies make it difficult to find or to create an organized legal entity capable of being *the* center for the area, to provide for or conduct AHEC functions. In some cases the contracting universities have achieved beneficial educational results in AHEC areas by working not through a single entity in the area, but with several—other hospitals, junior colleges, four-year colleges, another university, or even a branch of the contracting university health science center established as an entity within the AHEC area. The experience of the pioneering AHECs shows that there are areas in need of AHEC programs that are not ready to accept the leadership of any single organization within the area for a variety of reasons. Hospitals within the area may see themselves more as rivals than potential colleagues. Provider groups may be divided by hostilities toward one another. Yet the university health science center may find that it can develop amicable and productive relations with differing elements within the area, even if a single entity is not acceptable within the area as a base for AHEC operations. It is unfortunate that the federal regulations are so rigid that, if enforced, federal assistance would be denied to university health science centers that might wish to start AHEC programs in areas of need if the prescribed federal model for the organization of an AHEC area simply does not fit the sentiments and institutional attitudes within the area.

While I believe that the prescribed organizational form for an AHEC center is too rigid and should be modified to give federal administrators greater flexibility in judging the feasibility of a university health science center's proposals for developing within an AHEC area some kind of regional base or bases, I do believe to be prudent the additional requirement in the 1976 law that each AHEC center "have an advisory board of which at least 75 percent of the individuals shall be individuals, including both health service providers and consumers, from the area served by the center" (Public Law 94-484, Sec. 781(d), (2)(H)).

The Secretary of DHEW by regulation (U.S. DHEW, 1978, p. 55246) has further developed the requirement for an advisory board by defining health service providers as those individuals

who derive more than 10 percent of their annual income from the health care industry, and by stipulating that in meeting this requirement:

> (i) the advisory board must be reasonably divided between:
>
> (A) Providers of health care, including at least one physician, dentist, nurse, and allied health professional, who is actively engaged in the practice of his or her profession in the area served by the center; and
>
> (B) Consumers, including students, who reside in the area and are broadly representative of the population in the area in terms of demographic factors such as race, ethnic background, and sex. The advisory board shall advise the chief administrative official of the center on all major policies concerning the operation of the center program priorities and on other issues, as necessary.

The administrative chain, established in whatever form within an AHEC area, for effective conduct of an AHEC program in cooperation with the contracting university health science center must rest heavily upon professionally competent and experienced individuals affiliated with health provider and health professional educational institutions in the area, but there is always the possibility that in developing their priorities for action, they may be neglectful of the interests and needs of some segments within the area, both among health professionals and patients. If the area has a dominant center, with strong hospitals that serve as referral institutions, the smaller, outlying hospitals may need to be heard from as to ways in which they may be helped to provide better service to prospective patients in their immediate neighborhood, even if they still continue to refer some categories of patients to the larger hospitals in the major community or communities. Outlying populations themselves should also be given a chance to be heard as to their special health care needs. Given the prestige of physicians in matters

of health care and their dominant role in hospital affairs, some effort also needs to be made to provide an opportunity for other health professions—dentists, nurses, and allied health professionals—to be able to comment on the AHEC program, and to make suggestions as to activities to be included. While an advisory board of the type now required for federal assistance for an AHEC project should not be administratively responsible for conducting actual programs, its review of the AHEC program would serve as an antidote to too narrow professional and institutional leadership and to the possible confinement of AHEC programs to the major community or communities within an AHEC area to the neglect of outlying towns and more rural areas.

Phases in development of AHEC projects. The original AHEC projects were instituted in 1972 when the AHEC concept itself had only recently been formulated and before a body of actual experience was available upon which useful doctrine about the ways to conduct such a program could be based. The proposals for the projects had to be hastily drafted by the university health science centers and hastily reviewed by the federal authorities responsible for determining the final award of contracts. For all parties involved in this contract process in 1972, AHEC projects were essentially new and untried ventures. The very lack of federal control and review resulting from the excessive turnover in administrative personnel associated with the changing structure in DHEW—from central to regional and back to central federal responsibility—left each AHEC project in those years relatively free to find its own way amid the great variety of circumstances met in the AHEC areas. Hence, the pioneering AHECs were not constrained by the emanation of doctrine from a central source as to how to conduct an AHEC project and so were permitted to strive on their own, with various degrees of success, to carry out, amid the great diversity of area environments they encountered in the United States, the AHEC concept formulated in general terms by the Carnegie Commission.

The hazard now is that the newer AHECs, to have federal assistance, must conform to many specific requirements, despite

the great diversity among areas in the United States. They must also do so in a shorter time span. The original group began in 1972 with the presumption that they would receive support from the federal government for a five-year period. However, in view of the generally favorable reaction in the federal government to their AHEC efforts, the level of expenditures roughly attained by the fifth year of operation was extended to the sixth year, with the expectation that the project would continue to receive assistance on a declining level in a seventh, eighth, and final ninth year, subject only to their ability to assure compliance with the new requirements by September 30, 1979. The newer AHEC projects, however, now face the presumption of support from the federal government for each area AHEC program proposed over only a six-year period; the first year for planning, which may include some developmental activities, the second year for development, which may include some operations, a third and fourth year of operations, the funding levels in general increasing over these four years; the fifth and sixth years are to be years also of operations, but with federal funding phasing down, while cost sharing by the contracting university increases above the minimum 25 percent expected at the beginning of the contract. Thus, the new AHEC projects have a shortened time span for federal financial assistance within which to plan, develop, and operate an AHEC program, and the program is expected to continue operation without further federal assistance after the sixth year.

This is assuredly a tight schedule within which a university health science center must plan, develop, and place in full operation the complex network both within the university center as well as in the designated AHEC area required for the conduct of an AHEC program and also must develop alternate sources of funds to replace those received from the federal AHEC contract. Time is required to build a new and different network of personal association between university personnel in the several health professional faculties and with their professional peers at a distance in the AHEC area. In view of the time schedule now required for an AHEC project which receives federal support, it

would be prudent for any university health science center, before submitting a proposal for an AHEC contract, to consider carefully its degree of readiness to embark upon an AHEC project. Is there now within the medical faculty a substantial level of agreement at the level of the dean, the clinical department chairmen, and faculty leaders that they should commit themselves to an effort to decentralize a noticeable portion, at least ten percent, of the clinical instruction of medical students in their final two clinical years within hospitals, clinics, and physicians' offices in the AHEC area? Are they willing to provide actual advice and assistance in the development of residency programs, particularly in primary fields of medicine in the AHEC area? Is there evidence of interest in other faculties—dentistry, pharmacy, public health, nursing, or allied health—in participating in outreach activity in the area and in collaborating with educational institutions within the area that may also be involved in the education of health providers? Is there evidence of some thought as to sources of funds, apart from an AHEC contract, to cover the costs of an AHEC program?

Beyond the matter of interest in and commitment to the idea of an AHEC program is there evidence of some experience already in discussions with significant persons in the AHEC area as to their and their institutions' possible participation in educational activities ultimately under the supervision of the university center? Beyond that stage, is there some actual experience of participation within the area in such educational activities?

The original AHEC projects differed considerably in their degree of readiness for an AHEC program, either at the university center or in the AHEC area or areas. By the time AHEC contracts were awarded in 1972, the university centers in North Carolina, South Carolina, Illinois, and West Virginia had already initiated some operations in collaboration with institutions in AHEC areas. Tufts also had some history of operating relationships in Maine. In North Dakota the plan for decentralized clinical instruction of fourth-year medical students in the four quadrants had already received concurrence and state approval before the award of the AHEC project. In the case of California,

while the university centers in San Francisco and Los Angeles had a history of only slight activity in the central San Joaquin Valley and no general commitment to outreach activity before the contract award, earlier aspirations for the establishment of an additional state medical school in Fresno, although frustrated, had led to the creation of the Central San Joaquin Valley Health Consortium and readiness in the area to engage in health professional educational activity, which ultimately facilitated a rapid growth of the AHEC program. In a similar vein, the formation of the Navajo Health Authority by tribal initiative shortly before the AHEC program was awarded to the University of New Mexico provided that institution with a potentially strong area organization for the conduct of the program in the area. In Minnesota, beginning in January 1972 and as a result of an initiative centered in Saint Cloud, the central Minnesota Area Health Education Consortium had already been formed with RMP assistance and appeared to be a willing partner for the University of Minnesota, which at the time of the award of the contract had had little experience in outreach beyond the Twin Cities area. In the case of Texas and Missouri, neither the university centers nor the South Texas and western Missouri areas had a history of prior experience in AHEC-type efforts at either the discussion phase or actual operating phase.

Perhaps a bare majority of the original AHEC projects could have met the new time schedule and the specific requirements now associated with it if they had confronted them in 1972, but the remainder could not. There may well be a number of instances in the United States in which additional university health science centers could propose an AHEC program in particular AHEC areas with a high probability of achieving a successful AHEC partnership within the time schedule and requirements now set by the federal government. But there is an equally high probability that there are areas that need the benefits that would ultimately accrue from a fully implemented AHEC program, but in which even a university health science center fully committed to an effort to build an AHEC program

could make little progress against local apathy, antipathies, cultural and linguistic hurdles, educational and economic differences, institutional and professional jealousies, and unfortunate geography within the AHEC area. The way to progress in this kind of area may be piecemeal, starting not with an emphasis on medicine as was the case with most of the original AHECs, but with an emphasis on other health professions in which beneficial results may be achieved earlier, as in the case of AHEC programs in South Texas and in the Navajo area. It is indeed probable that such areas may be the very ones in which health care is likely to be the most deficient and most in need of cooperative contact with a university health center, but the present terms for an AHEC contract would certainly discourage university health science centers from even trying to develop an AHEC program with them.

As befits the educational nature of the changes proposed in the AHEC concept, the federal contracts for AHEC projects were directly with university health science centers or parts thereof, and the contacts of federal officials in both the legislative and executive branches have naturally been primarily with university representatives. The strengths as well as the weaknesses of the universities are more visible to federal officials, and I have already noted that federal sources feel the need to impose certain requirements to ensure the full commitment of the contracting medical schools to the AHEC program. There is no less a need for commitment to the program by relevant institutions and persons in the AHEC area or at the AHEC center as defined by the new legislation and regulations, even though this aspect of an AHEC project may be less visible to federal officials.

I very much fear that the federal program as now defined calls for a rigid cookie cutter model to be achieved in a relatively short period of time, and that under these terms a successful ongoing AHEC program can be launched only in restricted cases where highly favorable circumstances for such a program exist both at the university health science center and in the defined

AHEC area. If a state of readiness exists for both parties and they have had some actual experience as collaborating partners, then the decision to enter into an AHEC contract with the federal government with expectation of full compliance with the terms of the contract may be a reasonable act. There surely are areas in this country in need of assistance and in partnership with which the best-intentioned and best-prepared university health science center could not achieve the results demanded in new federal contracts in the time allowed. It seems highly unlikely that a university health science center under these terms would take responsibility for an AHEC program in South Texas, the Navajo area, Maine, or Minnesota or western Missouri.

I can sympathize with the federal government's insistence upon having strong evidence that a university health science center, as a prospective contractor, is itself committed to the AHEC concept, and ready and willing to decentralize portions of its educational programs to areas outside the university center and to encourage regional organization and coordination of health professional education. The university is the prime contractor, as it should be in an educational program, and it has general responsibility for fulfillment of the contract. But I believe that the government has gone too far in prescribing results to be achieved in the area in a short time, in essence telling the contractor "how to do it" in his area. In its present posture, the federal government is limiting the applicability of its support for AHEC programs to areas in the United States that already enjoy favorable developments. I very much hope that the federal government will realize this, and that the administration will be given the flexibility under less rigid terms to consider proposals for experimental AHEC programs in areas posing inherently difficult situations requiring time and ingenuity in programming to achieve progress. If not, I am confident that there are areas of great need within the United States that simply will not be addressed within the limits of a federally assisted AHEC program as now defined.

AHEC contracts or grants? In the letter from the BHME of DHEW in June 1972 announcing its program in support of the development and operation of AHECs, it was indicated that support would come to the university health science center in the form of a contract, and it was stated that "long-term support, up to five years is envisioned, subject to the availability of appropriations, extension of the legislative authority after June 30, 1974, and successful performance by the contractor." In the ensuing RFP, it was further stated that contracts would be awarded with incremental funding features and that an initial amount would be obligated under the basic contract covering the first year of performance, and additional funds would be allotted from time to time by contract modification up to the full estimated cost of the contract. The contracting institutions were required to present the projected scope of work year by year for each of the five years, with the estimated cost of the contract for each year shown and the final five-year total. Each year during the five-year period the contract was reviewed, and in the light of experience the specific terms and amounts allotted were determined in negotiations with the federal officers. After the initial five-year period, subsequent contracts have been written on an annual basis.

The contract method for the relationship between the university health science centers and the federal government seems to have been generally acceptable. In a speculative fashion I encountered some reference to the possibility of proceeding on a grant basis rather than contract, though certain project directors argued forcibly that the contract procedure was distinctly preferable for an AHEC program. It provides the basis for a business-like relationship between the university center and the federal government, and it also provides for a business-like relationship between the university and entities in the AHEC area as subcontractors. Questions as to performance can be related to specific work statements, and an atmosphere of accountability for services rendered is engendered.

Even though the prime contract is held by the university health science center as the educational institution ultimately responsible for an educational program, the university center must persuade health provider institutions in the area to participate responsibly in various kinds of educational programs. The Carnegie Commission in its 1970 report referred to AHECs as "satellites" of the university health science centers, but, since the collaborating institutions in the area are generally independent entities, the relationship between them and the university center, to be effective, must in essence be that of a partnership between parties, each of whom perceives advantages to be derived from participation in a joint venture. The achievement of such an understanding among the parties not only assures collaboration, but also, secondarily, builds up wider support for obtaining funds to defray costs of their joint venture in education from a variety of sources other than the federal government, whether state appropriations, local government support, institutional income from whatever source, philanthropic contributions, or fees for service as in continuing education paid by individual professionals or by their sponsoring institutions or employers.

The principal complaint among the AHEC project directors and their staffs was not the contract form of relationship to the federal government, but the time spent and frustrations associated with negotiations with the federal officials in the annual review of the contracts for program modifications and budget agreements. The federal officers in Washington, D.C., had no sooner acquired a working familiarity with the projects and their personnel than the decentralization of DHEW's administrative structure took the responsibility away from the Washington office and passed it to persons in the regional offices who were not familiar with AHECs and in some cases not even with the kinds of problems involved in complex health education programs. About the time they had acquired familiarity with the projects and the project directors had become familiar with them, the next reorganization of DHEW brought the responsibility back to Washington, D.C., where the required build-up of necessary staff was slow and produced another hectic period

for all concerned. It is to be hoped that henceforth there can be more stability in the federal offices with responsibility for overseeing AHEC projects.

A Final Word

It is certainly evident to the reader that my conversations with a myriad of persons involved in AHEC programs during site visits to the 11 contracting university health science centers and particularly to their AHEC areas have convinced me of the soundness of the Carnegie Commission's recommendations for change in educational procedures in the direction of developing the use of AHECs as a part of the process for education for new entrants to the health professions and for continuing the education of established practitioners. Its AHEC concept provides a needed antidote to the imbalance in the outcomes of the educational process that has dominated the educational scene for health professionals in the post-World War II years. The changes in learning environment provide indications that they will contribute to better distribution of health providers, both geographically and by specialty, and to the upgrading over a lifetime of service of the knowledge and skill of health practitioners, although additional innovations in actual delivery systems may also be needed to bring health providers to neglected populations in particularly difficult circumstances. I reach this general conclusion despite the fact that there are varying degrees of success and failure among the pioneering projects. Some had a higher degree of commitment, willingness to change, and participation in AHEC activities from the faculties and important administrators than others. Some enjoyed more prestigious, stable, and skillful project direction than others. Some faced AHEC areas more happily endowed with resources in talent and money than others. Some faced a more tractable situation in AHEC areas than others. But the generalization holds that the overall efforts of the 11 pioneering projects offer promises of beneficial results, and their successes as well as failures in actual efforts to institute and conduct AHEC programs offer lessons in what to do and not to do which should be useful to others, themselves venturing into AHEC programs.

There can be no question, also, that the federal interest in the Carnegie Commission recommendation and willingness to provide funds to initiate AHEC programs was of strategic importance in the launching of the AHEC projects. Yet, in the six years from 1972 to 1978, the total federal funding for the 11 projects came to slightly over $81 million—an average of only $1,360,000 per project per year. When one considers the beneficial changes in the 11 states and the nonfederal financing that has been generated in support of the programs of most of the projects, the return on federal dollars spent has been substantial.

The revision of the federal program associated with the change in the authorizing legislation in 1976 may make the prospect of a federal contract in support of an AHEC program less attractive to university health science centers. I hope very much that this will not deter the interest of university centers in finding ways to launch AHEC programs, even if they decide not to apply for federal assistance. There is encouraging evidence in the experience of a number of the AHEC pioneers that the response in their neighboring regions to their AHEC programs has been sufficient to induce growing support from a variety of funding sources other than federal. A somewhat similar prototype to an AHEC program restricted to medical education, the WAMI program, after initial phases of support from a philanthropic foundation and then the federal government, is now functioning regularly on the basis of legislative appropriations to the University of Washington from four states—Washington, Alaska, Montana, and Idaho.

Helpful as federal funds might be, if they are not available or available only under unworkable terms, the need for readjustment in the output of types of health professionals to bring them into better adaptation to health care service needs is great enough that, as a matter of professional concern, university health science centers should endeavor to find alternatives to support AHEC-type changes in the system. Indeed, the level of dissatisfaction with aspects of health care delivery is so great

Note: As discussed in the Foreword (p. ix), the original Part II of this report is available on request from the Council as a separate document in duplicated form.

that, if universities do not undertake to find ways in which educational defects related to the problems of health care delivery can be remedied, they are likely to find themselves under increasing pressure and dictation for change not only from the federal government, but from other external pressures closer to home. Prudence as well as professional obligation suggests the need for changes in the status quo to meet the problems that the AHEC concept addresses and the desirability of imaginative leadership and willingness to alter present ways within university health science centers. The health care of the American people would benefit if many more university health science centers pursued in their own ways the AHEC goals explored by the pioneers of 1972, and so would the status of professional health providers and educators.

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